The Builder.

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Bedroom Furniture and Fixtures, House in Lennox-gardens.—Mr. Arthur Cawston, Architect ..... *Single-Page Ink-Photo.*
Drawing-Room, "Brooklands," Weybridge.—Mr. Reginald T. Blomfield, Architect ..... *Single-Page Ink-Photo.*
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Architecture at the Royal Academy.

THE collection of architectural drawings at the Royal Academy is somewhat more heterogeneous, perhaps, than usual, and does not present anything which can be singled out as of special and marked interest. It contains however a great many interesting drawings, and the general level of draughtsmanship is fully kept up. The hanging is somewhat confused in its arrangement, and the evidence of either carelessness, ignorance or partiality is perhaps stronger than usual. Which of these qualities is in the ascendant it is of course impossible to surmise unless we knew (which no one does) under whose direction the drawings are really selected and hung. As we have already noticed, the Hanging Committee this year did not include an architect, and how little sculptors and painters are able to judge of architecture we know only too well. The *on dit* goes that one well-known painter who superintended the conclusion of part of the architectural hanging excused himself for having skied some small drawings out of sight by the plea that "they covered the wall better so," that being apparently the main object. There is evidence of either incapacity or carelessness in the rejection of some drawings of which we know and the acceptance of some others; and if some of the rejected drawings were hung alongside some of the accepted ones, the result would be rather curious. Lastly, however, we cannot but think that there is an obvious element of unfairness in the manner in which the drawings representing one or two of the largest buildings in progress are apparently deliberately put on one side or mounted aloft. We noticed this last year in the case of Mr. Mountford's view of the Sheffield Municipal Buildings, which was the most important new building of that year, and the drawing of which was placed where no one could see it. We find again this year the drawing of the most important new building of the year, Mr. Webb's completion of the South Kensington Museum, put on one side at an angle of the room, and one of the non-accepted designs given the central place. There is an obvious intention in this, and though of course it is always possible that the accepted and executed design for a building may not be the best artistically, we cannot see any valid excuse for the treatment in this case. Generally speaking we believe there is a widespread feeling of dissatisfaction among architects with the way the architectural exhibits at the Academy are dealt with; the acceptance or rejection of a drawing is regarded by many (as an architect remarked to us the other day) as "a mere toss-up"; and we cannot but feel strongly that if there is to be any pretence on the part of the Academy of treating architecture as an art on the same level with painting and sculpture, the Hanging Committee ought invariably to include one of the architect members who would be known to be responsible for the hanging, and exhibitors would then know in whose hands they were. As it is, no one has any idea who selects and arranges the architectural drawings; the whole thing is done in a corner, and there is consequently a general feeling of distrust in regard to it.

Once again we point out that the system of exhibiting architecture at the Academy is radically wrong. The room set apart specially for architecture is too small to provide space for any such drawings as would really give the facts and structure of an architectural design. Preference is given to picturesque views of buildings on a small scale, which, regarded as pictures, are of course of little interest in comparison with the other pictorial exhibits, and with the space allotted no other system is possible. With the public such drawings may be more popular than true architectural delineations of a building, although even this popularity is so limited that the room is generally nearly empty; but an academy of arts ought to lead the public taste, not follow it, and some consideration ought to be given to what is of interest and value to architects and to serious students of the art of architecture. In Paris an architect can exhibit a whole set of drawings giving the plan, section, and detailed treatment of a single building, and that is the true way to illustrate architecture by drawings. In the case of architecture the picture of the building is not the real thing, it is only a representation of it, being thus in an entirely different class from the other pictorial exhibits. On the French system of exhibiting a complete set of constructive drawings, we have before us the facts and the genesis of the architectural design, instead of a mere picture of it; we can see how the architect has dealt with the problem constructively as well as artistically. The drawings do not represent the mere appearance of the building, but they represent the work itself, and we can put together the architectural treatment of it from the drawings. Until this system is accepted at the Royal Academy, the architectural section of the exhibition must always remain a thing of merely superficial interest, and mere draughtsmanship take the precedence of design properly so-called, as it obviously does at present. The majority of architects who exhibit depend upon a draughtsman to put their idea into a shape in which it is likely to prove acceptable; a most vicious system. But for anything better than this the space allotted is wholly inadequate. Architecture, the central art, is allowed to be cornered instead of taking its proper position, and until the Royal Academy awake to the fact that art does not mean pictures merely but design in every sense, there is no hope of an improvement. Whenever that principle is realised, it will be recognised that the space allotted for architecture is too limited to serve any good purpose, and it will then be seen that architecture must have more space, in order to meet its claims for exhibition adequately. We fear however that it will be long before the perception of this necessity takes any root in the minds of the majority of Royal Academicians. The majority of the Academicians are painters, and think art means pictures; a heresy in which the public are only too ready to follow them. Architects have some right to complain, for they at least have wider views, and are interested in painting and sculpture,—while the painters and sculptors for the most part think of no art but their own. So things

are, and for the present one can only make the best of it.

The three central points of the walls are occupied respectively by Mr. Waterhouse's "Examination Hall, Yorkshire College, Leeds" (1751), Mr. Pearson's view of Truro Cathedral as it will appear when (or if) completed (1687), and Mr. Belcher's geometrical elevation of the competition design for the completion of the South Kensington Museum (1809). No plans are given with any of these. Mr. Waterhouse's Examination Hall is a solid-looking brick building with stone dressings introduced a good deal in the way of flat bands, which form a feature in the upper story of the towers. The entrance front takes the form of two square towers with corbelled-out turrets on the upper stage, and slated spires square on plan; between which is, on the upper floor level (we presume from the appearance of the exterior design that there are two floors), a large Perpendicular traceried window of the orthodox type marking the end of the hall. The side of the building is treated with two ranges of traceried windows of the same type between buttresses, but with segmental arched heads, and a strongly-marked corbelled cornice over. The building has a solid and monumental appearance; the drawing is executed in water-colour in Mr. Waterhouse's well-known and effective if rather heavy style. The drawing of Truro Cathedral is a beautiful water-colour drawing, but gives a false impression of the tone of the exterior of the building, giving it the appearance of a breadth and quietness of tone in the masonry which is not the effect which the actual building has. The general effect in the drawing is fine, the western towers group well with the central one, but they are perhaps rather deficient in power and character themselves; a little more solid wall left in the lower portion would have given them more. The delicate detail about the south porch is carefully touched in the drawing, and contrasts well with the plainer portions of the design. On the whole however the best parts of the cathedral are those now executed; the completion of the nave will not add much to the architectural interest of the cathedral beyond taking away the painful appearance of incompleteness from the eastern portion.

Mr. Belcher's elevation of his design for the South Kensington Museum is an unusual and original piece of design, but very much wants a plan to furnish the key to it. This is a point on which we have spoken so often and so strongly that it becomes wearisome to have to repeat it every year. It is a quasi-Classical elevation, with a long row of columns on the ground story of rather abnormal tenuity. We see no reason why the proportion of the Classic column should not be modified at pleasure and in the desire to get a new effect and expression from the feature, but in this instance we cannot but think that the long row of very thin columns would have a weak effect, and when we find the upper story again striped down with thin columns or pilasters (it is difficult to say which at some points), one feels that this feature has been repeated rather to superfluity. The two cupolas are elegant in design, and so is the upper portion of the tower, though we certainly do not like the columns corbelled out from the plain mass of wall, below the line where the chief decorative treatment of the upper stage begins; they look as if stuck on, and carry nothing but a slight projection suggestive of a balcony. The detail elevation (1,675) is a very fine piece of work, and a kind of drawing of which we wish to see more in the architectural room. The sculptural decoration above the ground-floor windows, between the columns, is very original: over each keystone is a shield with the name of an eminent artist, and two female figures, one on each side of the shield, holding up a symbolic accessory; the shield with the name of Chantry is flanked by two nude figures holding up a statue; in the next compartment Mr. G. F. Watts is commemorated, and an easel and brushes symbolise painting; in the next is the name of Gottfried Semper, and two figures hold up a model of a Classic building. Whether however it was well to show these figures carved in stone built into a red brick wall which occupies the plain spaces is a question; it looks piquant and unusual, but it detaches the sculpture too much from the architecture and destroys the appearance of breadth and repose. The drawing is a beautifully executed one, and quite a model for the getting up of detailed elevations. Whether the design could really be quoted as in keeping with existing portions of the museum which are completed externally (which was we think a a requirement in the competition), may be a question.

As before observed, Mr. Aston Webb's perspective of his South Kensington design (1,716) hangs in one of the angles. It was illustrated and commented upon by us at the time of the competition. The building seems to group in a very satisfactory manner, and suits its site; in another Academy exhibition we hope we may see some illustrations of the further treatment of the building in detail design and in construction. Occupying the position balancing this, at the other angle of the room, is a view of the front of "Gosford House N.B., as completed" (1790), by Mr. W. Young, a design carrying one back to the old days of "Classic" mansions. The entrance is approached by two flights of steps at each end of a terrace carried on a rusticated arcade, which represents apparently the principal floor level of the central part of the house. A great mass of wall rises behind this, broken up by pilasters which are not very happily placed, and pierced with three great round-arched windows divided horizontally at the springing by an entablature carried on a couple of small columns. A pediment occupies the centre of the skyline, with a balustrade on each side crowned at the extremities with lions, and behind the pediment is a low octagon crowned by a circular dome. At each side of the central mass we have wings in orthodox fashion; a square mass in the centre of each wing with lower recessed portions at each side, one of which connects it with the main central building. The front is absolutely symmetrical, and has the dignity of the old-fashioned type of "mansions of the nobility and gentry," but the want of a plan renders it absolutely impossible to form any real judgment as to the treatment of the building: what is the central block, and what do the three large windows light? And what are the functions of the symmetrical side blocks? Do they lend themselves conveniently to the arrangement of the plan, or is the whole simply an architectural screen? These are questions which the design at once suggests, and to which no answer is given.

The exhibition contains another illustration from a mansion on a great scale, this time an interior, "Hewell Grange; interior of Hall" (1629), by Mr. Thomas Garner. This is a very large central hall with a ponderous flat panelled oak ceiling, the ends of the beams carried on carved brackets. The height of the wall is divided halfway by a band of carved ornament running round. On the left is an arcade with marble columns opening from the centre of the side of the hall, a large square-headed opening with pilasters facing it on the other side. The first floor galleries are seen above, with intermittent arcaded openings with marble shafts, leaving solid piers at intervals, and across the end of the gallery is a similar but uninterrupted arcade, through which are seen the arches of a larger arcade in a further part of the building. The lower part of the wall is panelled, the upper part hung with tapestries or carpets. The drawing, a water-colour, is a fine and rich one, and the whole effect exceedingly sumptuous, but there is an impression conveyed that the scale of the apartment is exaggerated, and that it can hardly be really so large as it is made to appear here, where it suggests the central hall of a great hotel rather than of a private house.

The Sheffield Municipal Buildings is illustrated by Mr. Mountford in several drawings. A view of the principal staircase (1,679) shows a wide and dignified staircase-hall, the first floor portion carried on arches, with an open arcade on the principal landing, the design of which is carried round the wall on the other sides, the pilasters between the arches supporting a large panelled cove over which is a lantern. The general effect is fine and spacious, but we cannot say that the details are interesting. The Surrey street front of the building is shown in another drawing (1,737), and makes a very agreeable architectural composition, in which the author has succeeded in indicating the multiple nature of the uses of the building while preserving a sufficient degree of architectural unity. The view towards the churchyard, the front at the opposite side from the last mentioned, is not quite so satisfactory in this respect, and appears somewhat too much like a group of buildings put together accidentally, and the end of the council-chamber might have claimed a rather more striking architectural treatment. The staircase turret adjoining it comes in well, and makes a good feature in the façade.

The front of the Royal College of Music at South Kensington, by Sir A. W. Blomfield (1636), is one of the important new buildings illustrated, and one which suffers much from want of a plan, as the elevation gives the idea that the architect has been restricted to treatment mainly of a utilitarian character. The building may be suitable for the site and for its purpose, but the elevation can hardly be said to present much architectural interest in itself.

Prominent features in the room are two large decorative panels, hung at each end above the strictly architectural drawings. One of these is Mr. J. Babb's "Amores Caprarii—frieze" (1,678), a design of the same type which its author has previously exhibited at the Academy, consisting of a procession of figures in a yellowish tone relieved on a dark ground, and with painted architectural decoration forming horizontal borders above and below. The present one is a procession of young men and goats arranged in a purely decorative manner; the general effect is pretty and suitable to its position, though the figures are abnormally thin. The other work referred to is one of a more serious type, "Decorative Panel: Youth; the Toilers and the Idlers" (1796), by Mr. Gustav Natorp; a wall-painting with a moral. There are no accessary decorations, the design consisting simply of figures of men and women, nude and somewhat conventionalised in colour, against a light indication of sky as a background; the figures are not too much modelled, but the whole kept flat in effect. The composition is arranged in two sloping lines descending towards the centre (the reverse of a pediment composition), the blank space in the background in the centre serving to divide off the two groups distinctly, the toilers on the left and the idlers on the right. The whole composition is agreable and suggestive, and its effect truly decorative; there is however one mistake, to our thinking, in drawing the recumbent "idler" figure near the centre as if partially foreshortened, the feet receding somewhat. As all the other figures are as nearly as possible in a flat plane, the result is to give this particular figure the appearance of having the legs too short and the feet too small.

Other drawings in the Architectural Room we will notice in future numbers.

LECTURES AT UNIVERSITY COLLEGE.—The following lectures on Archæology are announced: Four lectures on the "Mediæval Archæology of the West," by Professor Stuart Poole, on Mondays, from May 2 to May 23; five lectures on "The Relations of Religion and Art in the Middle Age," by Mr. Maurice Hewlett, on Mondays, from May 30 to June 27; six lectures on "Mediæval Archæology of the East," by Professor Stuart Poole, on Thursdays, from May 5 to June 9; and four lectures on "Art in India," by Mr. J. Kennedy, on Thursday, June 16, Friday, June 17, Thursday, June 23, and Friday, June 24.

THE SKETCH DESIGNS FOR THE GLASGOW ART GALLERIES.

Of the sixty-two designs submitted for this competition, fifty-one only are included in the public exhibition of the drawings, and of these several are anonymous. It is unfortunate that the preliminary conditions left competitors the option of withdrawing their designs, for it cannot be too strongly insisted that full publicity is essential to a rightly-conducted competition. It is strange that architects should fail to see this, and should have withdrawn their work when invited by the committee to exhibit.

It must be confessed that of these fifty-one a large proportion is frankly bad; it is somewhat disappointing to find nearly one-half included in this sweeping category. The badness, of course, is of varying degree; much of it arises from ignorance of planning, as an art in the higher sense, not less capable of artistic inspiration than an elevation; much of it, too, arises palpably from simple inexperience. This last is almost welcome, for one cannot but feel that an important competition, such as this, may be of genuine educational value. What is not welcome is the aggressive badness of experienced incapacity, the tawdry "Classic," the unspeakable "baronial," or the atrocity of a Leicester-square "Alhambra."

It is abundantly evident that the committee's unfortunate instructions, or, rather, lack of explicit definition, as to the central hall, have completely misled the majority of the competitors, who have most naturally interpreted it as a concert-hall. That this, the crucial feature of the whole design, should have been left so vague and ill-defined in the original instructions is the most unsatisfactory point about the competition; it must have occasioned many murmurs and heart-burnings that could, and should, have been avoided.

Mr. J. J. Burnet's design is, in point of plan, exceedingly able and well studied; it is somewhat unaccountable that it should not have been included in the six selected. The central hall is here placed lengthwise, east and west, as in Mr. Deane's design; the main entrance is from the south, with a subsidiary entrance from the north or river side; the administration and school of art are grouped to right and left in the south front, so that, by recessing the main entrance to the building proper, an exceedingly ingenious yet obvious arrangement has been gained, in which the three separate entrances asked for to these distinct departments are grouped together most conveniently. From the vestibule, which is really part of the museum, the circulation is uninterrupted and complete round the entire building on both floors, with entrances to the central hall on all four sides below. The whole plan is dignified and broad, with much skill shown in its adjustment and combinations, even to the basement service for the galleries and schools of art. Its chief defect is that the central hall, which is frankly a hall for music, and rather long for its width, is too much cut off on the first floor, and destitute of all circulation commanding it; while on the ground floor it is not quite happy that the main approaches should be at the sides. This would detract considerably from its impressiveness on entering. The elevations to this design are evidently sketches not sufficiently studied, and rather forbidding in their sketchiness. The style is a dignified Modern Classic, that would, however, require more study to make the building as attractive as it might be. The four thin towers round the central hall recall rather obviously Mr. Ruskin's (perhaps cheap) criticism of King's College Chapel, "a table upside down."

Mr. G. Washington Browne's design may be grouped with Mr. Burnet's in that it also combines the entrances to the building proper with those to the school of art and the administration; these form, however, a separate block thrown forward on the south front, and connected with the main building by a vestibule. The central hall is here elliptical, with gallery or corridor all round it on both floors; to the right and left are the museum and art galleries in most straightforward simplicity, with an admirable circulation for the public. The staircases are not adequate, but the plan is otherwise an able one. It is, however, doubtful if an oval hall would be of sufficient dignity; it is certainly disappointing here in section. The elevations are less successful, being disjointed and overpowered, in spite of two towers, by the huge roof of the central hall; some of the detail is seriously out of scale.

Mr. W. J. Anderson has also an exceedingly good design, which does much credit to the younger school of Glasgow architects. The art school and administration are similarly grouped with a main entrance, but in this case to the north: the great hall and galleries are thus a complete whole, with the same uninterrupted circulation, and a satisfactory sense of unity. The central hall is square, with great bays on all four sides, two of which are separated off by columns into aisles, and restore the hall to the rectangle. The section of the hall is poor, but the design as a whole is very good, the elevation to the south being very fine. To the north the art school, &c., are most unnecessarily large, which leads to a quite exaggerated vestibule; but the semicircular entrance is very good indeed. The north elevation is scarcely successful, and the side façade is marred by the disjointed connection of the museum proper and north block. These defects, however, could doubtless have been greatly overcome (particularly as the art school has been ultimately abandoned), had the author been accepted for a second study.

In a totally different category comes the remarkable design of Mr. Wm. Leiper. Here the plan, though in detail artistic and with a certain poetry about it, has been somewhat fatally sacrificed. It is open to much criticism for its want of broadly thought-out circulation, its galleries that are *culs-de-sac*, its staircases to the north that are too hidden away; nearly one-third of the site is left vacant "for future extension," which makes the plan lopsided. But the building would have been beautiful, full of poetry and character. The elevations are most studied, broad and dignified, yet each with a special interest of its own. The style adopted is Italian Gothic, more especially Venetian, and with a certain almost Oriental feeling, full of poetry and charm; the entrance to the east, which more directly serves the museum and galleries, is particularly good. In the south front the central feature is a finely-proportioned dome over the entrance-vestibule; on the north is a flatter dome, with behind it two beautiful octagonal towers flanking the great hall, containing staircases and ventilation shafts. The angles of the building are emphasised with turrets, thoroughly in keeping with the style. It is, however, doubtful whether a more important motive might not have been adopted, to which the plan, with its square-angle rooms, would have lent itself most readily. The façades have a tendency to run on *ad infinitum*, with no very evident termination, a criticism which, however, is equally true of the old buildings on whose inspiration Mr. Leiper has worked. The museum courts are very interesting in section, and the great hall would be very fine, with galleries round it on both floors, a semicircular arcade below and traceried triforium above. In plan the hall itself is very skilful, though with an almost ecclesiastical feeling about it; it is arranged for orchestra, but could easily have been modified to suit the committee's revised conditions. One cannot but regret that a design so artistic and full of poetry was not admitted among the six, in spite of plan. It is probably an instance where the personality of the assessor counts for much.

Another design to be noted for its elevations is that of Mr. A. N. Paterson. Here the plan is good, with continuous circulation and very well-placed staircases; it is not big enough in conception, being too much cut up, and the parts too small, but is well-balanced and clear. The central hall is purely a concert-room, but is interesting in section. The elevations are distinctly noteworthy, as being the only attempt, and a very interesting one, to treat the building in monumental Scotch architecture; the whole is dignified and good, if somewhat too cautious in design. The central motive on the northern front is a fine Scotch tower, but all the elevations are carefully studied, restrained, and effective.

Mr. J. A. Campbell's design, though wholly different, is also very able and refined in elevation. The plan is scarcely successful, the outer circulation being incomplete, and the galleries too much cut up into small and monotonously similar rooms; the museum courts enclosed within the outer galleries are practically isolated. The central hall, both in plan and section, is very good, with galleries round it on both floors. The elevations are broad in feeling, and interesting in point of architecture, the style being Modern Classic, somewhat French in character. The semi-dome that covers one end of the great hall is distinctly theatrical and out of harmony,—a distant reminiscence on a small scale of a feature that has been made typically French by the great roof of the Paris Opera. Two towers flanking the great hall are the central motive in the south front; they are scarcely high enough to be as elegant as might be; the sculpture shown is greatly out of scale; the side elevation is very good. Messrs. Honeyman & Keppie have yet a third design, in plan not essentially differing from the two designs included in the six selected. The elevations are classical, broad, and restrained. The central feature is a dome which is not very obvious in plan, but is very good in outline and design. It distinctly recalls the dome recently added by Dr. Rowand Anderson to Edinburgh University.

Messrs. Morris & Hunter have adopted an oval hall (which, as shown in section, is singularly uninteresting), and have spread the museum over the whole ground floor. A maximum of floor space is gained at the cost of all sense of unity or assured design; nor would the lighting be always satisfactory. On the first floor the arrangement of the picture galleries is monotonous in the extreme, and the general circulation is quite interrupted (save for a narrow corridor) by the art school. The elevations on the other hand are very broad and dignified Renaissance, a trifle dull perhaps, and not always true to plan, but with a genuine character of their own. To the park front is a fine terrace, approached by stairs in a semi-circular portico.

Messrs. Chorley & Connon have a disappointing design in uninteresting Classic, with an overpowering pediment on a dozen columns. Behind this gigantic pediment is a (square) dome that cannot be called beautiful, with similar roof to the angle pavilions of the building. The central hall is oval and quite isolated on the first floor, as are also the upper galleries to the museum halls, with separate staircases of their own. The circulation, however, is very straightforward; the school of art is relegated to the basement.

Mr. T. L. Watson's design is strongly Byzantine, both in plan and elevation, and is an interesting piece of work. The central hall is approached from three sides, and forms a genuinely central feature; the galleries around it are grouped in rather haphazard fashion, with little sense of a circulation for the public.

A design more original than reasonable is that of Mr. J. Wallace, who has elected to preserve a passage-way (at present existing) across the centre of the site; the main entrance is accordingly at the east-end, with a lordly vestibule and an enormous development of the school of art and administration. The central hall, a concert-room pure and simple (no longer central), is grouped with the museum to the west of this passage-way; the museum is, in consequence, grievously confined. Otherwise, however, the plan is skilful, and the elevations are exceedingly good, strictly Classical, well-designed, and

stately, with a very successful dome over the vestibule.

In reviewing this competition from the broader standpoint of the architectural profession generally, one or two matters certainly call for criticism. Allusion has already been made to the indecisive and misleading instructions issued in regard to the central hall. This is the most serious blunder of the competition, and naturally provokes severe comments. The first and foremost duty of a Committee is to issue precise and definite instructions, in common fairness to competitors. In the present instance nearly all have misinterpreted the principal requirement, and many of the designs have been thrown out in consequence. Either the Committee did or did not know their own minds; if they did, they should have given unmistakable expression to their wishes; if they did not, they should have said so plainly, and left the competitors a free hand.

In the next place, public exhibition of the drawings should be not optional, but a condition of competition. If, for fear of misappropriation of ideas, it is impossible to have the designs on public view after the first competition, which would be the best solution; at any rate, all should be ultimately exhibited together. In no other way can the fairness of the award be vindicated; in no other way can the genuine educational value of an important competition be turned to use.

Further, the assessor's report should be made public, and be detailed. There is, of course, safety in silence, but, for the good of all concerned, a full and thorough report by the assessor should be invariably published. It is not too much to ask a well-paid assessor to take the trouble; to most of the competitors it is their only consolation; while to all it is the best instruction to be gained from the competition. In this case the report of Mr. Waterhouse has been published, but it is very meagre.

For a competition of this importance, it is open to question whether a single assessor, however eminent, should be appointed sole judge. No one questions for a moment the ability, the eminence, or the impartiality of the assessor in this case; a committee of experts might, however, have been more open to some artistic considerations that are very valid. The temptation to design "up to" an assessor's personal predilections (real or presumed) is great. As a matter of fact, the award has been given to a design that embodies, skilfully enough, the latest "London fashion." The commercial capital of the North, grey, grimy, and damp, yet palatial Glasgow, has an architectural character of its own that is well worth studying. It is a pity that the new Art Galleries will hardly be in keeping with this character.

NOTES.

THE conditions upon which the Durham coal-owners are prepared to resume work are, as had been anticipated, based upon an immediate reduction of 10 per cent. on the wages paid at the time work was suspended. Indeed, it would not have been surprising if the loss they have suffered in the interim had caused them to stipulate for a further reduction. The rate arrived at may be revised after July 31, if either masters or men establish the necessity for such revision, but the Association suggests the immediate formation of a Wages Board, to deal with the question, in order to prevent a recurrence of suspension of work during its discussion. Surely the disastrous effects of the present mode of procedure must by this time be apparent to all engaged in the contest, even without the lesson of the engineers' strike. This has dragged along for weeks and months, inflicting incalculable hardships upon businesses and individuals, and is only just coming to a termination. Certainly the two contests are of an entirely different nature, but each appeals for the adoption of conciliatory measures for the prevention of unnecessary conflicts in the future. Mr. Burt told the Miners' National Union Conference on Monday that, although the Durham men were doubtless acting perfectly within their rights in refusing arbitration, they had made a mistake. With characteristic bluntness he explained the difference between arbitration resulting in reductions and strikes having a similar termination, and showed the necessity of abandoning the latter unsatisfactory system. The advice given contrasted very strongly with the reckless defiance of economic laws which has recently been advanced by certain labour leaders. "Turn it how you will," asserted Mr. Burt, "demand must ultimately control the market." It is to be hoped that moderate counsels will prevail, and that work will soon be resumed, as the distress in the district is very keen, and the loss daily becoming more serious.

THE appointment of a Royal Commission to decide upon the question of a teaching university for London is a satisfactory step. No doubt those who strongly favoured the new charter for the proposed university will see in it only a hindrance to the quick establishing of a university. But it is much better that the scheme should be thoroughly considered in all its bearings, and in a somewhat wider manner than is possible in the judicial proceedings before the Privy Council when the grant of the charter was opposed. Those who favour the creation of this new university will probably find that the report of the Commission will, in the end, serve to strengthen the university when it is established. Such a university, if wide and thorough in its teaching, should do not a little to improve the education of the architects of the country.

IT appears to be contended by some patentees and patent agents that Mr. Goschen has not gone far enough in the reduction of the fees on patents. This contention is natural; persons interested in patents would, of course, like to have no fees on patents. No remission of taxation ever occurs without those who gain by it thinking that more might have been done for them. There is a good deal to be said for making patent fees as low as possible, and even for their entire abolition. On the other hand, the fact that the fee on the renewal of patents causes a considerable number of patents to lapse is not one altogether to be regretted in the public interests. The tendency to patent every trifling improvement in every trifling thing is not to the public advantage, and if the patent fees prevent the renewal of a certain number of patents one may be pretty sure that the patents are of no very great value, and that it is as well that they should be thrown open to the public without restriction.

RAILWAY time-tables are getting very bulky, but they are, at the same time, certainly becoming rather less puzzling than they used to be. The small type and other economies of space are gradually giving way to bolder figures and less abbreviated, and, consequently, more lucid directions; the desired information being far more easily obtained now than formerly, both in "Bradshaw" and in some of the companies' guides. It will be noticed that the Midland Guide for the ensuing month exhibits a marked improvement in this respect, no fewer than sixty additional pages being used as a consequence of the complete re-arrangement of the tables and the employment of larger type and bolder figures. Another improvement is the adoption of italic figures for trains that only run on certain specified days of the week. This system has been in use for some time on the London and North-Western and one or two other lines, and might with advantage be adopted by all compilers of railway guides. The attention is thereby at once arrested and drawn to the exceptional circumstances connected with the running of the train, whereas,—as many know to their cost,—these "traps" are often easily overlooked, even by constant travellers, when ordinary type is used. Many would hail with considerable satisfaction the general substitution of larger figures for the microscopic type which tries the eyesight in some of the time-tables.

THE *Times* has recently printed several letters relative to the proposed destruction of St. Dunstan's-in-the-East, upon the union of that parish with All Hallows, Barking, under the Union of Benefices Act.* Some writers, it appears, are ready to sacrifice as a peace-offering to the Commissioners under the Act, one of Wren's two neighbouring churches: St. Mary-at-Hill, and St. Margaret Pattens, Rood-lane, which latter has a lofty octagonal leaden spire, virtually Gothic in form. All seem to be agreed upon saving the steeple, at any rate, of St. Dunstan's. For this there are precedents, as witness Wren's tower of St. Mary Somerset, in Upper Thames-street, conspicuous for its eight pinnacles in shape of angle and side pedestals, carrying, respectively, vases and obelisks capped with balls; and the fifteenth-century tower of All Hallows Staining, by Mark-lane. A model of the latter was included in Mr. Birch's "Old London," prepared for the International Health Exhibition of 1884. All Hallows escaped from the Great Fire; but the body of the fabric fell down five years afterwards, and was then re-built. Since the untoward fate of St. Antholin's spire has been cited in the correspondence, we may direct attention to a passage in a letter from Major H. A. Joseph, C.C., and churchwarden of St. Antholin, printed in the *Times* of April 21. He says:—

> The parishioners with great regret consented to the removal of their church. They, however, worked hard for, and obtained the retention of, the spire, supposing it to be one of Wren's. When it was found to be a modern structure the consent of the parishioners was obtained for its sale. . . .

It will be interesting to learn what proofs were found for upsetting a current belief. We have always understood that the stone spire of St. Antholin, which is shown upon the bas-belief that has been set up in Sise-lane, Watling-street, to mark its site, was designed by Wren. Hatton (1708) says so, adding that it was "built by Mr. Cartwright"; the late George Godwin, in his "Churches of London," vol. i. (1838), with many other writers, speaks of it as having been due to Wren. In Mr. Andrew T. Taylor's illustrated monograph upon "The Towers and Steeples designed by Sir Christopher Wren" (1881), based upon the essay which gained the medal of the Royal Institute of British Architects, we read:—

> St. Antholin (or St. Anthony), Watling-street, was erected in 1682, and was the only stone spire, pure and simple, which Wren carried out. . . . It was pulled down in 1875. One cannot but deeply regret the loss of this spire, unique in its way amongst Wren's works; especially as it could very well have been allowed to remain, and, indeed, did remain for a short time after the church was pulled down. . . .

However, less mercenary considerations did not prevail, and the tower, after standing for, we think, two years only, followed the church. In one of his letters to the *Times*, Canon Venables writes (25th instant) that the whole edifice was Wren's work, and that sometime back the spire, having been damaged by lightning, was rebuilt, and its apex unduly blunted. (The apex was somewhat in shape of a Corinthian capital, 154 ft. above the ground). But the re-building, upon the original lines, did not constitute a modern structure, as commonly understood. The steeples of St. Mary-le-Bow and St. Bride's, Fleet-street, have both, if we remember aright, been in part re-built. Of other churches by Wren that have been removed in pursuance of the Act, we recall to mind, St. Matthew, Friday-street; St. Benet, Grace-church-street: St. Dionis Backchurch; St. Mildred, Poultry; St. Mary Somerset; All Hallows, Bread-street, successor to that

* See "Note" as to this in our issue of November 21 last.

wherein Milton was baptised; and St. Michael, Queenhithe, whose spirelet and vane are replaced above the new rectory-house for St. James, Garlickhithe, in Upper Thames-street.

A NEW kind of casing for electric-light wires has been patented by Mr. Thomas Smith. In general form it is like the ordinary wood casing in common use; the grooves to receive the cables are made by rolling iron, or other metal, from sheets of such thickness that the wire can be slipped into place and held there by the spring of the metal. The covers are made to spring or slide on or off, and can be made to any design. The grooves and covers are varnished with some suitable insulating substance, but in practice it will certainly be found to chip off in places, and the casing will not, therefore, add to the insulation resistance of the circuit in the way that ordinary wood-casing does; on the other hand, if a sufficient number of fuses are employed, the risks from fire will be less than when wood is used. In the event of the covering of the cable failing, the leakage and consequent local heating will take place entirely within an incombustible case, and before the heating can possibly become dangerous the fuses must go.

ACCORDING to the Vienna local press, the Duke of Cumberland has notified to the authorities of the "Austrian Museum" at that city that he will soon require them to return the collection of antiquities which King George V. of Hanover, soon after his dethronement, lent them for exhibition. This collection of some eighty-two objects, known as the "Welfenschatz," is considered to be an exceedingly valuable one, and includes a much-admired reliquary not unlike the Soltykoff one at the South Kensington Museum. The collection has a somewhat interesting history dating as far back as 1173, its first abode being in the St. Blasius Church in Brunswick. Among the various journeys the collection made, we notice one from Hanover to England in 1803, on account of the expected invasion of the French. On King George V. losing his throne, the collection "disappeared" for some eighteen months, to turn up again at Vienna in September, 1867, after it had been officially made out to be the deposed monarch's private property.

A DESCRIPTION of the large steel dome of the proposed Government Buildings for the Chicago Exhibition will be found in the January volume of the *Transactions* of the American Society of Civil Engineers. This structure, which is 118 ft. diameter, is one of the tallest iron or steel domes in the world, its total height being 235 ft. It is supported by sixteen columns, under each of which there are fifteen timber piles. The maximum weight that can come on each of these piles is 14 tons, the wind pressure being answerable for no less than 90 per cent. of this load. In order to secure good foundations, it was specified that test piles should be driven to ascertain the probable length that would be necessary, and these were driven until they would not sink more than 1 in. under a hammer weighing 2,500 lbs. falling 25 ft. In making the calculations the stresses were first found in the dome proper, and afterwards in the columns supporting it. It was assumed to start with that the structure was a braced arch, hinged at the crown and ends,—the ends being at the springing line,—although, as a matter of fact, the ribs were all riveted up at these points. The vertical loading was taken at 50 lbs. per square foot on the horizontal projection of the dome, and a horizontal wind pressure of 50 lbs. per square foot was also allowed for.

IN the last number of the *Journal* of the Franklin Institute there is a paper by Mr. Elmer G. Willyoung, on "Resistance Standards: their Manufacture and Adjustment." The author first states the qualities which should be possessed by the material of which a resistance standard is made. It should have high specific resistance: it should not change its resistance in time, nor be acted upon chemically by the medium in which it is enclosed; it should have as small a temperature coefficient as possible. Dr. Matthiessen, who was chairman of the sub-Committee (of the Committee on Electrical Standards of the British Association) from 1862-65, decided that an alloy of some sort would most closely fulfil the required conditions. He found a considerable time change in many of the alloys examined; zinc always seems to crystallise out from alloys containing it, changing the homogeniety of the wire, and, at the same time, its resistance. Dr. Matthiessen suggested that in other cases the time change is due to a process of gradual annealing. It is worthy of note that when the original platinum-silver coils, finally adopted by the British Association, were examined last year, it was found that even their resistance had increased by 0·06 per cent. Resistance may be permanently changed by temporary change of temperature; in 1889 Bergmann found that if coils of copper, aluminium, and zinc are kept at a temperature of 300 deg. C. for one hour and then cooled, a permanent increase of resistance takes place which is as great as 6·8 per cent. in the case of magnesium, though with German silver there is a decrease of 0·2 per cent. The specific resistance of a substance obviously varies with its density; if a wire is wound on a spool whose diameter is less than eight times that of the wire, the resistance increases from 0·5 to 2 per cent., falling again, however, as the wire slowly anneals. From some results obtained by Drs. Feusner and St. Lindeck in 1891, it appears that an alloy consisting of copper 70 parts and manganese 30 parts has a temperature coefficient of 0·004 per cent., while an alloy of copper 73 parts, manganese 24 parts, and nickel 3 parts has a *negative* coefficient of 0·003 per cent.; it therefore seems that by taking proper proportions of these three metals an alloy may be obtained with the coefficient zero. All things considered, however, Mr. Willyoung regards platinum-silver as the most satisfactory material yet used. In conclusion the author describes a modification of the Carey-Foster method of measuring a resistance.

IN the same number of the *Journal* above referred to there is also a paper by Wm. S. Aldrich "On the Variable Action of Two-coil Solenoids." Experiments were carried out upon "(1) The combination (the differential coil-and-plunger of Silvanus P. Thompson's classification), consisting of two solenoid coils as two parts of one coil, traversed by a pulsating current of variable intensity in each part, and giving rise to a resultant magnetic field from the combination of the two variable-intensity electro-magnetic stresses of like character, and constant in direction. (2) The combination operating as two distinct solenoids, producing resultant stresses in the ether medium from the two variable-intensity electro-magnetic stresses of opposite character and constant in direction." The results obtained are shown by means of some carefully-drawn diagrams.

AMONGST the principal sales set down for the coming season is that of Apethorpe, the Northamptonshire seat for 300 years past of the Mildmays, and their descendants the Earls of Westmoreland. Extending over nearly 8,500 acres of Willybrook Hundred, it lies near to King's Cliffe, midway between Oundle and Stamford, and within the district formerly covered by Rockingham Forest. In 15 Hen. III. Ranulph Brito obtained grant of Apelthorpe, or Aypthorpe, Manor, out of the Royal demesne, at a yearly rent of 10*l.*; of the house built in that reign some remains, including a fireplace, are, we believe, extant. In Edward VI.'s time it reverted from Lord Mountjoy to the Crown, and was next exchanged to Sir Walter Mildmay, Knight, Chancellor of the Exchequer to Queen Elizabeth, and founder, in a house of the Black Friars, of Emmanuel College, Cambridge.* His son, Sir Anthony (by his wife, sister to Sir Francis Walsingham), entertained here James I. on his first coming into England, and introduced George Villiers to the King. Stow relates in his "Chronicle":—

"Ye 27th of Aprill ye King removed from Burleigh towards Hinchingbrooke, to Sir Oliver Cromwell's, and in ye way hee dined at Sir Anthony Mildmays."

To the early sixteenth-century house Anthony added a larger quadrangle, having a screen or cloister along one side, to the building whereof James I. gave some timber. This quadrangle resembles that of Rushton, in the same county, as enlarged by Sir Thomas Tresham, of which we gave a description and illustration on October 27 and November 3, 1888.† Anthony and his wife, Grace Sheringham, rest beneath a sumptuous tomb, carrying figures of Justice, Wisdom, Charity, Devotion, and Hope, in the parish church (1617-21). Their daughter and sole heir, Mary, married Francis, Lord Burghersh and Earl of Westmoreland, eldest son of Lady Mary Fane, who had been restored, 1604, to the ancient dignity of her house as Baroness Le Despencer. Of their eldest son, Mildmay, second Earl of Westmoreland, a portrait, by Van Dyck, was hung at Apethorpe; the two full-length paintings of Philip and Mary are, says Bridges, supposed to have been done by Holbein; yet Holbein died,—of the plague it is believed,—in 1543. His will bears date October 7, and was proved on November 29 of that year. The pictures may be by Sir Antonio More, who painted other portraits of Mary and her consort, and followed the latter into Spain. Apethorpe justly ranks amongst the best examples of its kind in England. A plate of the principal front will be found in J. P. Neale's "Views of Seats," 1820. Our article "Round Stamford," of October 17, 1885, is illustrated with several details of the exterior and interior of the house and the church. Near to Apethorpe are Rockingham Castle, originally built *temp.* the Conqueror, in the chapel of which William Rufus called his great council of bishops and abbots who renounced Anselm; Fotheringhay; and Cotterstock Hall, built by one Norton, the friend of Dryden, who here composed his last work, the "Fables," and passed the final two summers of his life.

IN the course of next month the Hummums Hotel, Covent Garden, together with "Rockley's" Restaurant (in the same building), will be offered for sale by auction, with possession. A company was formed in October, 1888, to acquire the premises then newly rebuilt for Mr. Harry Smith, by Messrs. Peto Brothers, from the designs of Messrs. Wylson & Long, architects. The present hotel stands at the south-western corner of Russell-street, Covent Garden, on the site of Small's (latterly Rigg's) Bagnio, which is cited in Hutton's "New View of London" (1708), and formed the scene of the reputed appearance of Parson Ford's ghost, as related by Dr. Johnson to Boswell. The Bagnio had supplanted a popular place of resort known as Mrs. Dubois's, afterwards the "Three Chairs" tavern. The Hummums,—a corruption of the Arabic, *hammam*, a bath,—and Pero's, in St. James's-street, were amongst the earliest hotels opened in the town. We gave a detailed description of the new premises in our issue of January 7, 1888.

THE Society of Watercolours has a very good exhibition, though we do not agree with some of the critics that it is better than

* *Ob.* 31 May, 1589: his tomb is in the south-aisle of St. Bartholomew's the Great, West Smithfield. He was son of the Thomas Mildmay, lord of the manor of Chelmsford, whose tomb forms an illustration to our review, April 18, 1891, of Mr. Fred. Chancellor's book on "The Ancient Sepulchral Monuments in Essex."

† See also Mr. J. A. Gotch's paper on "A Building Squire of the time of Elizabeth" printed in our columns of April 20, 1889: and our review, July 21, 1883, of his work upon Tresham's Buildings in Northamptonshire.

usual, or even quite so good. Mrs. Allingham's non-appearance is a serious loss; on the other hand there is a drawing by Mr. Tadema, which has not happened often of late. This is "Calling the Worshippers" (179); a young woman in a leopard skin, a piece of carving, marble flooring and wall, a charming silver vase, and the corner of a temple up the steps, make the picture, which is fully worthy of the painter's unique reputation in this class of subject. Mr. Alfred Hunt exhibits a view of "Grasse" (104) which is one of of the most beautiful water-colours he has ever painted; the sense of mere pigment seems etherealised away, and we look into air and sunlight. Mr. H. Moore also has never done a finer and more powerful water-colour of sea than his "Pack Clouds Away" (84). Mr. Albert Goodwin has attempted a very difficult effect in "Salisbury Close" (14), a bright summer night with a mingling of sky light and lamp light; it is a remarkable work, and seems to come out more as it is studied. Mr. Tom Lloyd has a picture of a Thames garden gate where the "lord of the manor" (a little boy) comes out to admire the swans; the two figures make a harmony in blue and saffron; the swans are admirably painted; his "Reapers" (120), a kind of semi-decorative horizontal composition, is a finer work in feeling and colour; one of his best. Among the old school of landscapes may be mentioned Mr. A. D. Fripp's "Isle of Portland" (111), and Mr. G. A. Fripp's "Cleve Mill" (106); and "Penrhyn Castle" (85); Mr. Cuthbert Rigby's "Under Wetherlam" (16), Mr. Philip's "Crags of Glenogle" (140); Mr. Rigby has also a very fine snow picture (155), and Mr. Eyre Walker, in "When sweet summer airs do blow" (88), has succeeded in getting really the light of summer; nowadays we too often see pictures called "summer" with no sunlight in them at all. Other landscapes by the same artist are among the best of the exhibition. Mr. R. W. Allan has been painting Eastern scenes; his "Golden Temple, Amritsar" (114) is admirable as a representation of architecture under a tropical sun; "On the Beach at Madras" (267) is another Indian study; there are also some excellent drawings of Scotch scenery by him. Mr. Rooke and Mr. S. J. Hodson contribute some architectural subjects, and Mr. H. Marshall has painted the Mansion House and its surrounding in a mist. Among other architectural subjects Mr. R. Little makes a capital little picture out of the "Greek Church, Bayswater" (38), in snow, Mr. Herbert Marshall has also very successfully treated "The Embankment" (22) on a winter evening. Mr. Thorne Waite's finest work is "Changing Pasture, Aldborough" (61). We regret to see the increase of large drawings of an essentially vulgar type in the exhibition, such as 156 and 102 and others. These are the kind of things to engrave in the *Graphic*, no doubt, but not for an exhibition which has such traditions as the Society of Water-colours has, and ought to cling to.

THE NEW GALLERY EXHIBITION.

THE exhibition of this year is not up to the standard of most of its predecessors. Mr. Burne-Jones, whose works have been usually the great attraction of the New Gallery, does not exhibit, and others among the prominent exhibitors are hardly at their best.

The finest work in the collection is Mr. Adrian Stokes's landscape, "Roman Campagna; Early Spring" (143), showing the undulating sward of the Campagna, with a forsaken quarry and a clump of small trees on the right, the back of a Roman aqueduct just showing in the distance over the horizon made by the uneven ground, and a sky full of light and air above it, the blue just broken by a thin fleecy cloud. A landscape more real in all its details is not often seen; it looks as if one could walk into it, and yet this is no mere realism, the artistic balance of the whole is perfectly kept. It is a real pleasure to see such a landscape as this. Among the more prominent figure pictures a high place must be given to one hanging near this, Mr. Collier's "Gretchen" (140). Goethe's heroine is shown in her night dress, looking at the casket, at the moment of her reflection that everything with men turns on gold, and "Ach, wir Armen!" The figure is backed by a delightful old German cabinet, painted with great care. Gretchen is, as Goethe imagined her, a lower-class girl, with handsome but somewhat coarse features and a profusion of reddish hair; the face is a little wanting in definite expression, but the whole conception is at all events not commonplace. The figure is lighted by artificial light, the effect of which is well conveyed.

Mr. Watts's "Sic Transit" (77), which holds the place of honour in the West Gallery, is one of those pictures of his which look like an attempt to say in painting what is better said in poetry. As a painting it is not interesting. A shrouded dead figure is laid out on a bier, while on the floor are strewn various emblems of the occupations of life,—armour, a lute, and other objects, the metal painted in a subdued rich tone, as of things that have the *patine* of age on them; but of the whole one feels that there is more moral than pictorial power about it. The very reverse is the case with Mr. Tadema's "A Silent Greeting" (15), in which the thought is of the slightest, but the pictorial effect perfect. A Roman in soldier's dress is going out at a door facing the spectator, just laying his hand in farewell on the hand of a woman seated inside the door; beyond is seen the blue sky and brightly-lighted wall; a building, yellow in the sunshine, opposite. The great charm of the painting is its carefully-wrought and perfect harmony of colour, in which sense it affects one like a perfectly-balanced musical composition, without a discordant note in it, and yet there is no appearance of contrived effect about it. Near this is Mr. Poynter's "When the World was Young" (10) a small study for the picture in the Royal Academy; and the same artist's "White Roses" (13), a half length of a woman backed by foliage which, as well as her face, seems hard and artificial in texture and colour; in this respect we much prefer the artist's figure seated in a Greek window, "Chloe" (57), with a tortoise lyre in her hand; there is a flush of life in the face which is certainly wanting in the lady of the white roses.

Sir J. Millais' figure entitled "Sweet Emma Moreland" (69), if we are to accept it as a representation of Tennyson's fancy, seems a curious instance of the failure resulting from giving an ideal name to a figure too closely copied from a model which does not answer to the ideal. The face is a fine one, richly painted; the hands are large, coarse, and bony, and as much out of keeping with the character of the face as with the title of the picture. The only other figure picture in the West Gallery (except portraits) which is worth a thought is Mr. A. Moore's "A Revery" (104—so spelt in the catalogue), a seated figure of a woman facing the spectator, backed by a rather too busy mural decoration which interferes a little with the breadth of the painting; the figure and the composition have the artist's usual grace and completeness, though is is hardly one of his best works.

Mr. Kennedy's "Jonah" (142) in the north gallery is incomprehensible; it seems to be a struggle going on in a Viking ship, but what the meaning or point of it is we cannot pretend to understand. Mr. Brighton's "Black-eyed Susan" (132) is a pretty figure in the foreground of a coast landscape, but much too refined for the idea suggested by the title. Mr. R. W. Macbeth has made a brilliant study of flowers in "An Alsatian Flower Stall" (166), and the picture has a marked character of its own. In "Bedtime" (139), an interior with a woman and child looking out at the moonlight, Mr. Philip Burne-Jones has realised a very true effect of a moonlit interior. The north gallery shows two "conscientious nudes" (as the French students say), Mr. Fowler's "Spirit of the Morning" (180), a kind of Venus Anadyomene in which the nudity is more evident than the poetry, and Mrs. Swynnerton's "Mater Triumphalis" (187), a portentously stout and thick figure with a crown at her feet, well painted but by no means attractive, and not very clear in its apparently ideal meaning.

In portraits the exhibition is stronger. In the west gallery Mr. Richmond's portrait of "The Venerable Archdeacon Wilson" (48) is more successful than his "Mrs. Marsden Smedley" (55), a lady in a white dress with a green-lined cloak; a graceful figure, but hard and mechanical in execution. Mr. Shannon's "Lady Skelmersdale" (92), seated with a violin in her hand, in a white dress, shows a noble and queenly head and a beautifully-drawn right hand and arm; but what a waist! It is almost like a fashion-plate, and appears exaggerated from what is possible in life; an artist should rather have erred from nature (if this be nature) the other way, and refused to paint a woman like a wasp in figure. His portrait of "Mrs. Wordsworth, principal of Lady Margaret Hall Oxford" (99) is one of the finest portraits in the exhibition, both in character and colour. Mr. Collier's "Mrs. W. H. Foster" (137), in a satin dress with a richly-coloured screen behind her, is a powerful piece of work. Mr. Shannon's "Mrs. Chapman" (158) is perhaps his best portrait, with a very finely-painted head. Mr. Herkomer has two "presentation portraits," "Sir Gabriel Stokes" (181) and "The Rev. T. E. B. Mayor" (185), belonging to that class of realistic portraits in which the dark costume leaves little chance for pictorial effect, and everything is concentrated on the expression of the head, which is very powerfully given in both cases. The exhibition includes two portrait heads of M. Paderewski, one by Mr. Tadema and the other by the Princess Louise; the former, representing the great pianist facing the spectator and apparently in in the act of playing (though the hands are not visible), is a splendid piece of painting, but does not seem to convey the concentration of expression of the face of a great executant intent upon his work, Mr. Watts has also a fine portrait of Mr. Walter Crane.

The exhibition contains a good many small landscapes of interest, and two or three large and important works, besides the fine one by Mr. Stokes to which we have already referred. Landscape painting at the New Gallery generally tends rather to the study of special and unusual effects rather than to the representation of nature under ordinary atmospheric circumstances. Mr. P. Burne-Jones has another good moonlight effect in "The Harvest Moon" (26). Mr. Parton's "In the Autumn Sunshine" (30) does not seem necessarily to suggest autumn, the trees at least rather suggest spring than autumn. Mr. Christie's "The Wreck" (59) is a small painting with a definite style (rather impressionist in its leanings) and fine colour. In "A Riverside Pastoral" (71) Mr. Calvert seems to have been "doing Corot" secondhand—not unsuccessfully. Mr. Frank Walton's "In Opulent June" (80) is one of the old school of straightforward landscapes; prosaic perhaps the modern school would call it; but it realises its title in the sunlit effect and the rich heavy masses of foliage. Mr. David Murray has a small but fine and poetic landscape, "Gathering Mists" (91), with one dark tree like a ship at anchor on the plain, and a beautifully faintly-lighted aërial western sky. In the north room we have a contrast between the old and new in Mr. Wimperis's "Way Across the Marsh" (127) and Mr. McLachlan's "Evening" (128), hung next to each other; both good in their way. Mr. North's winter scene, with no title but a verse (136), is a remarkable work, somewhat different from his usual range of effect; a bright but misty landscape with the first hint of coming spring in it. Mr. Padgett's "Moonrise over the Marshes" (148) has a character of its own. Mr. David Murray sends a large and powerful work "A Hampshire Haying, 1891" (175), representing only too well the characteristics of that terrible autumn of last year; a thunder-cloud hangs over the right of the scene, on the left a hay-cart is being dragged home over flooded meadows, the hay blown back by the wind which roars also through the trees on the right; the scene is dashed here and there by that strong sunlight which often produces such startling effect when half the sky is overcast with a thunder-cloud: it is a powerful rendering of a wild and striking moment of storm. Mr. H. W. B. Davis has a large twilight landscape, "Approaching Night" near Calais, and Miss Anna Alma-Tadema contributes a very charming study of sky—fleecy white clouds hovering amid the blue. In the South Gallery is a very fine study of sea by Mr. Tristram Ellis, "In Mediterranean Waters" (222), with a long blue swell rolling through the picture; Mr. Henry Moore contributes a very windy sea-piece in his best style; and Mr. Albert Goodwin exhibits one of his ideal scenes "The Rich Strand" in the "Faërie Queene," where dwelt Marinell, and where all things rich

and rare were cast up by the sea. As a Spenserian landscape it is not to the purpose to say that it is not like any scene in this world, for the Spenserian landscape is of the world of romance; but it is a fine and imaginative work, the more to be remarked on because painters so seldom attempt to illustrate Spenser, who is rich in subjects for painting nevertheless.

The sculpture this year is not very important, the most noticeable thing is Mr. Simonds's fountain, with a mermaid on the top playing on a pipe, and sea lions grouped symmetrically beneath looking up at her. This is a variation from the usual form of aquatic subject for a fountain; the mermaid indeed is a well-worn piece of furniture in fountain design, but this is not a conventional mermaid, but a figure treated and modelled in a very spirited manner, especially in the bold curves of her double fish-tails (they make mermaids' extremities double now,—see Mr. Jacomb-Hood's picture in the South Gallery). Mr. Mullins's "Comus and the Lady" is a very well-composed group, though the lady is rather too naïve for Milton's high-bred and high-minded creation. Mr. Dressler's gilt bronze figure of a "Girl tying up her sandal" repeats very pleasantly an old Classic type of sculptural design.

THE ART-UNION OF LONDON:

ANNUAL MEETING AND PRIZE-DISTRIBUTION.

The fifty-sixth annual meeting and prize-distribution of the Art-Union of London was held in the Adelphi Theatre on Tuesday afternoon last. In the absence of the President (the Earl of Derby), the chair was taken by Mr. John Mackrell, Chairman of the Finance Committee.

The annual report of the Council, read by the Secretary, Mr. R. W. Harrison, contained the following passages:—

"At the close of the fifty-sixth year of the society, the Council have pleasure in reporting a continuance of the support which the society has received in various parts of the world.

The Council, with the object of giving earlier facilities to prize-winners for the selection of pictures in the May exhibitions, have convened the annual meeting for the day on which it used to be held in former years, and earlier than in the past few years. Although this arrangement was duly announced to all the society's representatives, many of them have apparently not observed the date, as, at the close of the list a number of returns had still not come to hand, representing a considerable deduction from the expected total of subscriptions. . . . .

In 1890 the Council foresaw that they could not long hope to have the services of their valued Secretary, Mr. Watson, and in view of the importance of having a successor to him experienced in the peculiar duties of the office, they engaged as an assistant-secretary Mr. R. W. F. Harrison, at that time assistant-secretary to the City Guilds Technical Institute. In the course of last summer, Mr. Watson, who had served the society faithfully for forty-six years, desired to retire and enjoy the well-earned repose to which his long labours in the society's service entitled him, and the Council were glad to have at hand so excellent and competent a successor as Mr. Harrison has proved himself to be. They regret to have to report that in December last, within three months of his relinquishing his active duties, Mr. Watson died, at the advanced age of seventy-nine. Mr. Watson's retirement necessitated some reorganisation of the office, which, coming at a time when all the operations for the ensuing year had to be prepared, naturally occasioned some difficulty in carrying on the complex and widely-ramified work of the society; and having regard to these circumstances, the Council congratulate the members upon the issue of the year's operations.

The change of secretary offered a favourable opportunity for a reorganisation of the system of accounts, and the Council thought it best in the interests of the society to appoint a firm of professional accountants as auditors of the society's accounts. They accordingly appointed the firm of Messrs. Prideaux, Booker, Frere, & Co. to act in this capacity, and the books are now kept under their supervision. The accounts for the past year will be audited and printed and circulated among the members, with the full report of the Council. . . . .

The amount available for prizes, after providing for the annual work given to every subscriber and the other expenses of the year, enables the Council to award the following prizes:—

1	work of art of the value of	100*l.*
4	works " " "	45*l.*
5	" " " "	35*l.*
7	" " " "	20*l.*
15	" " " "	15*l.*

to be selected by the prize-winners.

large bronzes, the 'Warrior,' after H. Thornycroft.
10 large Doulton ware jugs, the copyright of the society.
10 " " beaded vases " "
10 " " Burslem vases " "
10 " " Burslem 'Rose' vases.
10 repoussé bronze 'Bellerophon' vases.
20 portfolios of 10 engravings, to be selected by the prize-winners.

Twenty-five artists' proofs of a fine mezzotint, engraved by Mr. F. McCulloch after the diploma picture of Sir John Millais, Bart., R.A., and entitled by him a 'Souvenir of Velasquez.' The proofs are signed by Sir John Millais and by the engraver, and the Council have every belief that this fine work will be found a most valuable acquisition by those who are fortunate enough to obtain it;

Making, with the prizes given to unsuccessful members, 292 prizes.

The Council have suffered several losses since the last annual meeting. Early last summer they had to deplore the death of Mr. Edwin Henry Lawrence, who had been their colleague for many years, and later in the year they lost an old and valued member of their body in Mr. George Wallis, for nearly thirty years Keeper of the South Kensington Museum. Mr. Wallis was born at Wolverhampton in 1811, and was one of the earliest Art Masters of the old Schools of Design. He was a Deputy Commissioner of the Exhibitions of 1851 and 1862, and was appointed Keeper of the Art Collections at South Kensington in 1863. His life was spent in the endeavour to improve and promote the art industries of the country.

The pressing claims of other business have deprived them of the assistance of Sir Philip Cunliffe Owen and Mr. T. E. Collcutt, and of the valuable services of one of the Honorary Secretaries, Mr. H. J. Francis, who, however, continues to give them the benefit of his co-operation as a member of Council. They consider themselves very fortunate in having obtained the consent of Mr. T. Buxton Morrish to undertake the duties of the Honorary Secretaryship, rendered vacant by the retirement of Mr. Francis, and in retaining the very valuable services of Mr. John Sparkes as Honorary Secretary.

To fill vacancies on the Council, Mr. J. T. Bennett Poë and Mr. L. B. Sebastian have been elected . . . .

The Royal Naval Exhibition, held last year, afforded an opportunity, of which the Council were happy to avail themselves, for the exhibition of the original oil-painting by Maclise of 'The Death of Nelson,' from which the popular plate, issued to the members of the Society in 1876, was engraved. The picture attracted much attention in the exhibition, and at the request of the Committee of the Naval Exhibition now being held at Liverpool, it has been lent by the Council for the gallery of that exhibition.

For the coming year the Council have been fortunate enough to secure the copyright of this year's Academy picture by Mr. W. Robert Macbeth, A.R.A., who is now engaged upon an etching of the work on the commission of the Council. The picture represents the ancient and picturesque town of King's Lynn, seen from across the river, towards which a number of fisher-folk in the foreground are hurrying to catch the last ferry-boat, which waits on the tide below. . . . .

The advantages offered by the society can only be brought adequately before the public by zeal and energy on the part of the Council's representatives in various parts of the world; and the special thanks of the members are due to several representatives, many of them old friends to the society, who have succeeded in recruiting an increased number of subscribers. Mr. F. G. Bonsor, of Balham, has surpassed himself with a return of 139 subscribers. The Council hope that his example may serve to stimulate others to still greater efforts in the future.

Various circumstances, above referred to, somewhat hampered the Council in the preparations for the year's work, and occasioned delays which cannot but have hindered the efforts of their representatives in distant parts of the world. Nevertheless, several of the returns received from their Colonial representatives show an advance upon the lists of last year. . . . .

No undertaking responds more quickly to the fluctuations of the general prosperity than one like that of the Art-Union of London, and the commercial depression which has been so marked a feature of the past year, especially in London, has not been without its effect upon the society's operations. In spite of these drawbacks, several of the society's friends have succeeded in securing an increase in their number of subscribers."

The Chairman, in moving the adoption of the report, said he thought that on the whole it was very satisfactory, especially in view of the circumstance of the loss of Mr. Watson's services, whose retirement and death they deeply regretted. He thought they were exceedingly fortunate in his successor, Mr. Harrison.

Mr. J. W. Butterworth, F.S.A., seconded the motion, which was unanimously agreed to.

On the motion of Mr. Butterworth, seconded by Mr. T. O. Donaldson, a hearty vote of thanks was accorded to the honorary secretaries, Mr. John Sparkes and Mr. T. Buxton Morrish, who were both, from unavoidable causes, absent from the meeting.

On the motion of the Chairman, a vote of thanks was given to Messrs. A. & S. Gatti for their kindness in granting the use of the theatre for the meeting.

The drawing for the prizes was then proceeded with, the principal prize falling to Mrs. M. Sutherland, of Beckenham.

LIVERPOOL ENGINEERING SOCIETY.

The thirteenth ordinary meeting of the present session was held at the Royal Institution on Wednesday, April 20, Mr. John T. Wood, President, in the chair.

After the usual routine business, including the nomination of the Council and Officers for the ensuing session, a paper was read by Mr. H. Percy Boulnois, M.Inst.C.E., entitled "Refuse Destructors."

After describing house refuse, and the different methods of collection, the lecturer recapitulated the various methods at present adopted for the ultimate disposal, and gave an interesting description of the manner in which the greater portion of the refuse of Liverpool is barged away to sea, and sunk in deep water. The lecturer then proceeded to describe in detail, and with diagrams, the various destructors which are now being erected in different parts of the country, and gave a fully detailed description of the twelve-cell destructor, on the "Fryer" principle, which he had recently erected for the Corporation of Liverpool, and a new method of charging which had been adapted thereto. In conclusion, the lecturer stated his opinion that the burning of town refuse was at present the best and most sanitary method known for dealing with such material, and, although the cost may be slightly in excess of other methods of disposal, the safety of such an operation, from a sanitary point of view, more than counterbalances any small increase in the amount of cost for its disposal.

The discussion upon the paper was adjourned until the next meeting.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At the meeting of this Association on the 20th inst., Mr. J. W. Grover, F.S.A., in the chair, Mr. F. Williams reported the discovery of further portions of a Roman hypocaust at Chester, and exhibited photographs of the remains, and also of a curious open timber roof of fifteenth-century work, which exists as part of the old buildings adjoining the site, which, it is feared, will have to be shortly removed. Mr. Earle Way exhibited a fine sixteenth-century bronze medallion of Faustina the Elder. Italian work, which was described by Mr. Allan Wyon, F.S.A. It is cast and not struck, the size being too large to admit of the latter process. Mr. de Gray Birch, F.S.A., exhibited illustrations of the sculpture on the font of Winchester Cathedral. Mr. C. J. Williams described a curious example of pottery made at Southwark. Mr. Marriage exhibited a perfect bowl-shaped vessel of light-coloured pottery, of Roman date, found probably at Rhodes. A paper was then read on "The Hog's Head: the Nuptial Cup of Sussex," by Mr. H. Syer Cuming, F.S.A., Scot. It was descriptive of an old custom, once common in the county,—and apparently confined to it,—of drinking the health of the bride, at wedding festivals, from a vessel made in the form of the head of a hog. Various examples of these vessels were described, some being of silver, but mostly of pottery; but one, formerly kept at Elstead, is of pewter. Several of the speakers, in the discussion which followed, spoke of other forms of these cups, and Mr. Way described one in the form of a pig, with a movable head, which formed the cup. The custom is now obsolete. The paper was read, in the author's absence from illness, by Mr. Loftus Brock, F.S.A. A second paper on "A Recent Discovery in Rome in connexion with Mythology in England," by Miss Russell, was then read. Some few months since, a Roman mosaic pavement was discovered on the Cælian Hill, Rome, on which the Evil Eye was represented, attacked by various forces. Miss Russell pointed out the general resemblance of the design to various cup and ring markings in England, which are traversed by a parallel line like a javelin, and suggested that these markings were charms against the Evil Eye.

Illustrations.

NEW CLOISTERS AND PROPOSED NEW CHAPEL FOR RADLEY COLLEGE.

RADLEY COLLEGE, near Abingdon, has lately become the possessor of the old mansion and park of the Bowyers, which it had before occupied as a tenant. When the tenure of the College was uncertain, it housed itself in buildings of a temporary character, with the exception of the fine old house which was occupied by the Warden and some of the Masters, and by the dining-hall. Having now acquired the ownership of the property, the College has begun to replace its temporary buildings by others of a more substantial kind, for which Mr. T. G. Jackson has been employed as architect. An infirmary has been built of a very complete type, and on a somewhat novel plan, and a long range of cloisters, with studies and dormitories above, connects the various rows of buildings with themselves and with the Chapel. A new chapel, to seat 300, is now about to be erected to meet the growing requirements of the school, which has increased, and is still increasing, in numbers under the present Warden.

BEDROOM FITTINGS AT 29, LENNOX-GARDENS.*

THIS illustration shows how such useful and unromantic accessories to a bedroom as a boot-cupboard, a medicine-chest, wardrobes, are mixed up with Italian *casone* fronts and delightful nick-nacks of all sorts in the bedroom.

It will be remembered that a casone is a chest about 4 ft. long, 2 ft. high and wide, made to contain the valuables, which in Italy are presented to a bride by her parents. Many exquisitely-carved old specimens exist in South Kensington Museum.

The front and ends shown in the drawing over the chimneypiece, and which now give interest to the cupboards containing the more practical treasures of an English lady's room, were rescued from Messrs. Wright Bros., in Wardour-street, and bear many marks of the vicissitudes of their lengthened career.

All the other fittings are in hard wood painted white; they were made by Messrs. Jackson, of Rathbone-place, and arranged by Mr. Arthur Cawston, the architect.

INTERIOR OF DRAWING-ROOM, "BROOKLANDS," WEYBRIDGE.

THE illustration shows the interior of a drawing-room, forming part of some extensive alterations and additions carried out at the house in 1889-1890. The two rooms were thrown into one by means of the arcade. The lady who appears to be stepping out of the wall, is really a life-size portrait on the wall. A view of the entrance front of the house as altered, and of a design for the billiard room, were in last year's Academy. The architect was Mr. Reginald Blomfield; Mr. Thomas Hunt, of Hoddesdon, was the contractor for the work.

HOUSES OF PARLIAMENT, MELBOURNE.

THE Houses of Parliament, Melbourne, which are not yet finished, though for some years past work has been almost continuously carried on there, are situated on a hill at the east end of the city, in Spring-street. The Parliament Houses, when completed, will occupy an approximately square space, the actual dimensions being 320 ft. by 312 ft., the site is a portion of the Parliament Gardens, a small reserve, on the laying out of which considerable skill has been expended.

The principal entrance is opposite the end of Bourke-street, up a great flight of steps, 140 ft. wide. These lead to a decastyle portico, 140 ft. long, consisting of nine bays; from each end of the portico doorways lead to the offices, committee-rooms, &c.; and from the centre of the portico three doorways open into the entrance vestibule, 44 ft. square, the lower portion only of which has yet been completed; over this vestibule a double stone dome, 46 ft. in external diameter, will eventually be erected, surmounted by a stone lantern, the topmost portion of which will be 218 ft. above the ground. Immediately behind the entrance vestibule is the Queen's Hall, 85 ft. long by 45 ft. wide, and 54 ft. high; on either side of the Queen's Hall lie the two Chambers, and at its east end is the Library; it serves, therefore, as a ready means of communication between these, the three most important centres. Across the east end of the Queen's Hall runs an elegant loggia, supporting a small gallery. This loggia forms portion of the direct line of communication between the Chambers, and the gallery over serves to connect the reporters' galleries belonging to them.

The Legislative Council-chamber is on the south side of the Queen's Hall. The portion of the floor reserved for the use of members only measures 44 ft. by 30 ft.; and the extreme size of the chamber, including the galleries at the sides and ends, is 72 ft. by 42 ft.; the height of this chamber is 38 ft.

The Legislative Assembly Chamber is on the north side of the Queen's Hall. The portion of the floor reserved for the use of members only measures 46 ft. by 40 ft.; and the extreme size of the chamber, including the galleries at the ends, is 72 ft. by 40 ft.

From the east end of the Queen's Hall access is gained through a small lobby to the central library, on either side of which, and communicating with it, are the two side libraries; these three libraries occupy the centre of the east frontage of the site, and additional libraries on either side will eventually be erected. The central library is 41 ft. square; the central portion of it is carried up on columns to a height of 46 ft., and carries a highly-ornamental dome; the remaining portions of the central library form a gallery at the first-floor level round the central portion. The two side libraries are each 49 ft. by 23 ft., and are 18 ft. high.

The refreshment and billiard rooms are over the side libraries, and are each 49 ft. by 23 ft., and are 24 ft. high.

The north and south frontages will be occupied by committee-rooms, offices, &c. These have not yet been erected, temporary accommodation in the meantime having been provided in a wooden building.

The external architecture consists throughout of a single Roman Doric order, standing on a bluestone rusticated basement, and is surmounted by an attic. This order embraces both the floors (principal and first) of which the building consists, each inter-columniation including a doorway or window-opening on each floor.

The internal architecture of the entrance vestibule consists, so far as it has been at present executed, of a single composite order, with coupled attached columns, standing on high pedestals.

The internal architecture of the Queen's Hall is in two orders,—the lower being Ionic, and the upper Composite. Above the upper order the ceiling is deeply coved, and is pierced so as to form a clearstory; this lights the hall. The centre portion of the ceiling is elaborately coffered, highly enriched, and profusely ornamented.

The internal architecture of the Legislative Council Chamber belongs to the Corinthian order; the ceiling over the centre portion is vaulted and coffered, and the ceilings over the end portions are vaulted; domed ceiling-lights cover the side galleries

The internal architecture of the Legislative Assembly Chamber is executed in the Ionic order, and this chamber is covered by a coffered, coved, and enriched ceiling.

The architecture of the interior of the central library is in two orders, the lower being Doric and the upper Ionic; and the central portion is surmounted by pendentives carrying a highly ornamental coffered dome, pierced with openings to light the space below.

The west front, which is the portion last completed, has been executed in beautiful white and very hard sandstone from Mount Difficult in the Grampian Ranges, near Stawell, and it is intended eventually to complete the building in this material.

As we observe that the so-called architectural journals of Australia are very indignant with us for some occasional depreciatory comments on the existing state of Australian architecture, we give this illustration of one of the most important Government buildings recently erected in an Australian city, and our readers can form their own opinion on it.

We may observe that a design for the Melbourne Houses of Parliament, by Messrs. Knight & Kerr, was published in the *Builder* for September 8, 1860, but appears to have been never carried out. The present building appears to be based on the same design, somewhat altered and modified. The architect of the building in its present form is Mr. P. Kerr.

* "Sussex-gardens" on the plate was a mistake in reading the MS. title, not discovered till too late for altering the plate title.

Books.

Handbook of Greek Archæology, Vases, Bronzes, Gems, Sculpture, Terra-cottas, Mural Paintings, Architecture, &c. By A. S. MURRAY, LL.D., F.S.A., Keeper of Greek and Roman Antiquities in the British Museum. With numerous Illustrations. London: Murray, Albemarle-street. 1892.

THE market has been of late flooded with manuals of Greek Archæology, but so far they have all been avowedly of second-hand character,—just so many *pis-allers* translated from the French or German, and somewhat perfunctorily posted up to date. It is a relief to turn from such books,—useful, even indispensable, as they have hitherto been,—to Mr. Murray's work, which is stamped with originality, or, to define more closely, idiosyncrasy. The book had its origin, the author tells us in his preface, in the Rhind Lectures given in Edinburgh in 1887. Books based on lectures are apt to be tiresome, but we may say at the outset that the author has entirely succeeded in shedding that mixture of the "preacher and the play-actor" which makes the lecturing personality intolerably irritating in print.

Archæology has suffered from its own inherent complexity. It is required of the archæologist that he be two men, the art critic to appraise, and the man of science to interpret. Mr. Murray holds, and perhaps rightly, that "the artistic element must be the first consideration in Greek archæology," but he is too wise not to allow that interpretative study must go along with technical appreciation. In characterising the book as a whole, what we feel is that its strong side is a minute and most diligent technical criticism, its weak side constructive and scientific interpretation; very few minds combine the two faculties. For this reason, perhaps, we think it will be read with more both of pleasure and profit by the advanced than by the elementary student; indeed, we are sure there are few professed archæologists who will not gain much from every chapter, and will not thank the writer for the persistently personal angle which compels the reader in salutary fashion to shift his own point of view. At the same time, the book suffers, as Mr. Murray's are apt to do, from a certain want of subordination of detail very puzzling to the beginner who lacks landmarks. It is, however, easy enough to get a *coup d'œil* from the manual of some fallaciously clear Frenchman, and then the full corrective value of Mr. Murray's deliberative proceedings will be duly felt. One example may suffice: "The rule of the black figure vases is to represent the eyes of men as circular, those of women as an almond shape," so the handbook universally, "but this distinction was not much observed in the early art of Asia Minor, as we see in the pottery of Naucratis, Daphnæ and Camirus, where Asiatic influence was felt; there the almond eye is conspicuous in men as in women," so Mr. Murray, with a precise differentiation that is valuable.

The whole section on vases seems to us the most valuable in the book, specially the portion on the primitive period,—doubly valuable to the English student, because he has here, for the first time, in popular and accessible form, the results of English excavations at Daphnæ and Naucratis, and he can examine the originals themselves in the British Museum. Of course, it is easy to wish details otherwise; we hold ourselves, *e.g.*, that unquestionably painted vases were in actual use, but we do not think the story cited on p. 72 as evidence, is of the smallest value. Asklepios is recorded in an inscription to have mended a broken vase for a boy. His pious master presented the vase to the Temple. "We are entitled to conclude," says Mr. Murray, "from the value attached to the vase that it had been painted with a design, probably one of great beauty." Not at all, the point was the glory of the god, not the grandeur of the vase. Fortunately, there are few "conclusions" of this precarious character. Again, when illustrations are so numerous, it is hard that we are given no instance of a real masterpiece of the early fine red period,—*e.g.*, the remarkable Mænad

dance of Hieron, or some sample of Euphronios at his best. An artist glancing over the book would form from the illustrations a needlessly low estimate of the merits, as to fine design, of Greek vase-painting. While speaking of illustrations we may note that the reproductions are, as a rule, excellent; those of vases in red and black are a new and most desirable feature in a handbook. Some admirable plates come from the author's large book on sculpture; only a few,—*e.g.*, slab from the Harpy tomb (fig. 69), are cruelly harsh.

We said at the outset that we felt interpretation to be the weak side of the book, and a certain fatality seems to compel Mr. Murray here and there to waste most valuable space on issues hopelessly doubtful. Who knows and who cares whether the wretched design from a cella (p. 142) represents an effete type of the Judgment of Paris or not? The writer himself has not much ground for confidence in the interpretation he is going to propose, and yet it occupies four and a half pages (!), just because the writer loves it as a troublesome child. Again, Mr. Murray has something like a mania for the conjectural restoration of lost works of art; a harmless pastime it may be for the advanced archæologist if out of work, but waste of time for the student. Why encourage him in twisting such sand-ropes by tabular views of the subjects of the paintings in the "Lesche." There was no space, we are told, for that most dateable, most *real* branch of archæology, numismatics, and yet there are lost pages that we sigh over. The chapter on architecture is slight, but, perhaps, sufficient for its purpose. It is odd though, in discussing the transit from hut-shaped house to hut-shaped temple to find no reference to Mr. J. G. Frazer's delightful article (in the *Journal of Philology*) on the circular Hestia-Vesta temples, and their origin in the Græco-Italic hut-house.

The critic is bound to note blots and omissions; but, all said and done, the book is an admirable piece of work, and no self-respecting student can leave it unread.

Les Artistes Célèbres: Velasquez, par PAUL LEFORT; *Antoine Watteau*, par G. DARGENTY; *Gerard Terburg*, par ÉMILE MICHEL; *Les Brueghel*, par ÉMILE MICHEL; *Gavarni*, par EUGÈNE FORGUES; *Abraham Bosse*, par ANTHONY VALABREQUE. Paris: Librairie de l'Art; 29, Cité d'Antin.

THIS series of thin volumes, in their artistically designed parchment covers, form a portion of a very admirable collection of brief biographical and critical treatises on eminent artists, each illustrated with a good many engravings after the artist's principal works, some coarse in execution but sufficient for purposes of reference and description, and by a certain number of fac-similes of original drawings, which have a special value as being in many cases representations of works of which the originals are not well known or easy of access. As the two last issued (those on the Brueghels and on A. Bosse) one dated in the present year, we may presume that the series, former volumes of which we have noticed some time since, is still in progress, and when complete it will form a very useful and interesting set of artistic biographies, popular in form and pleasant to read, but each one written by a learned and competent critic.

M. Lefort regards the great Spanish painter as especially the apostle of naturalism, the spirit which has had such a revival in recent French art, but in which he declines to see that danger to art which some see in it. Those who take this view he says, "forget that art being a convention can only exist through convention, and that the artist himself is only worthy of the name in proportion as something of his own personality mingles itself with his manner of understanding, feeling, and interpreting Nature." In other words, the so-called realists are only, after all, indulging in a new form of convention. This, though sounding somewhat paradoxical, is no doubt true in a sense. Instead of the convention of conception, which gave rise to purely unreal and theatrical representations of historical events or of Nature, the school of Velasquez, and of the moderns who follow him, adopt a realism of conception, with a conventionalism of representation or of technique. The event, as in Velasquez' noble picture of the "Surrender of Breda," is represented as it might have happened, but the method of painting does not aim at realistic minuteness of detail, at anything like deception of the eye: it is the artist's rendering of nature through painting, in accordance with his own special faculty of perception and execution.

M. Lefort regards the celebrated picture of his younger period, "Les Buveurs," as containing the germ of all the remarkable qualities of Velasquez. One peculiar quality in this celebrated work is that while it is antique or classic (in a way) in its leading idea and grouping, it is frankly realistic as to the figures taken separately; there is no attempt at ideal beauty; the figures are ordinary types of humanity, repulsive even (some of them); they have the air of being an ancient bacchanalian group translated into the human semblance of the painter's own period. The more essential point to be noticed is that it is essentially an artist's picture; there is nothing to interest or attract one in the incident or the personages, the attraction is in the grouping and treatment, representing exactly that kind of power which can be exhibited through painting alone, and the attraction and suggestiveness of which it is absolutely impossible to define in words: there is a harmony about it which appeals to the eye as music to the ear, but which is equally indefinable in both cases. In his portraits, especially those of his later days, what we feel impressed by is rather the remarkable power and mastery of execution without laboured finish, execution to which, as M. Lefort remarks the painter "has brought a boldness and freedom absolutely disdainful of unnecessary detail and accessories. Yet in spite of his apparent negligence the effect is always obtained, and the effect he wanted and aimed at." The fac-simile illustrations in the volume are few; they include a characteristic pen sketch of a coach and horses seen in perspective from the rear (another of Velasquez' peculiarly painter-like qualities is his love of experiments and *tours de force* in foreshortening), and two heads of that scoundrel the Duc d'Olivarez, reproduced respectively from an etching by Velasquez and an engraving attributed to him.

It is like going into another world to turn to M. Dargenty's volume on Watteau; though Watteau was a far more versatile painter than is realised by those who only judge him by the "Fête Champêtre" pictures to which he chiefly gave himself. These indeed have qualities of the highest order in composition, drawing, even in imaginative power, which many ordinary gallery-goers overlook because the subjects are of a light and frivolous order. But he could have done pretty nearly what he pleased, had not the fashion of the day led him into the pleasant paths of "Fêtes Champêtres." The tolerably numerous fac-similes from his studies in this volume are sufficient to show this. The author commences his biographical sketch with a brief sketch of the state of France at the time. "Oublions le passé! Le bon côté des choses, voilà ce qu'il faut voir; heureux, voilà ce qu'il faut être. Rattrapons le temps perdu; la vie est court, coulons la bonne. La Grèce, Rome? Sans doute: les grand dévouements, les nobles sacrifices, les vertus austères? Oui, certes; mais nous foulons le sol du Gaule! Nous sommes les enfants frivoles de cette vieille mère facile et gaie! . . . . Voilà ce que pensait la France quand Watteau se mit à peindre; son génie est de l'avoir deviné, sa gloire est de l'avoir traduit." There is the case in a nutshell. An artist of genius paints the life of his day; it may be a frivolous life in itself, but his genius will show itself all the same. His real power of figure-drawing is somewhat masked by the stiff and unnatural costume in which the figures in his usual scenes are dressed, but his studies of figures in more dégagé costume give quite a different impression. It is curious to read, in connexion with the prevalent style of his pictures, that he was a sombre and melancholy man in ordinary temperament and manner.

Watteau's Fêtes Champêtres are at all events more elevating subjects than Pierre Brueghel's horrible moral fantasies, which are an instructive contrast to Watteau. The latter treated light subjects so as to give them a serious artistic value; P. Brueghels treated serious subjects in a manner that is a travesty of all idea of art in the true sense. Jean Brueghel,—"Velvet" Brueghel,—was of course an artist in a very pretty way. It is curious to contrast the portraits of the two men with their works. They give the impression, with their fine chivalrous-looking heads and military bearing, of artists whose natural tendency would have been towards a far higher class of subjects.

Terburg, of whom M. Michel gives a well-illustrated account (so far as pictures depending so much on colour can be illustrated in cuts), may be said to have been intellectually an artist of the same type as Watteau, one who treated the society of his day in an artistic sense. Unfortunately, he had a graver (certainly) but a less graceful and *spirituel* society to depict, and his feeling is bourgeois compared with that of Watteau, but it is extraordinary what an air of grandeur, and an amount of suggestion of a story, he gets out of a group of two or three plain Dutch people in their heavy stiff costume. The figure of the large young woman with her back to the spectator in the celebrated picture of "The Satin Dress" (M. Michel calls it "La Remontrance Paternelle") is one of the most unforgettable things in painting, as far as expression and suggestion are concerned; a novel might be based on it.

The volume on Abraham Bosse gives a large number of engravings from his curious half-grotesque figures of various types of society and professions of his day, and that on Gavarni gives a number of fac-similes from his inimitable sketches of character.

Plain Handicrafts; being Essays by Artists setting forth the Principles of Design and Established Methods of Workmanship. A guide to elementary practice, with a preface by G. F. WATTS, R.A. Edited by A. H. MACKMURDO. London: Percival & Co.

THIS little book is issued by the National Association for the advancement of Art, one of the principal objects of which has been to promote an artistic spirit in what may be called every-day work-objects of ordinary use. The artists concerned in it are Mr. Selwyn Image, who writes "On the Design and the Study of Nature;" Mr. Lethaby ("Cabinet-making"); Mr. E. Roscoe Mullins ("Modelling" and "Carving"); Mr. Ernest W. Gimson ("Plaster-work"); Mr. Reginald Blomfield ("Metal-work"); Miss May Morris ("Embroidery"), and Mr. Heywood Summer ("How to make Stencil Plates and how to use them"). Though it is a thin little volume of only sixty-three pages, it will thus be seen that it contains the opinions of some very accomplished artists in several important branches of art.

Mr. Watts's short preface takes the line that "it is a social demand, rising into a religious duty, to make every endeavour in the direction of supplying all possible compensating consolation for the routine of daily work, because so mechanical and dreary." . . . . "The boy encouraged to imitate some natural object will ever after see in that object something unseen and unknown to him before, and he will find the time he formerly did not know what to do with—a state of being that continually drives thousands to the congested metropolis—henceforth full of pleasurable sensations." What drives thousands to the "congested metropolis" is, we fancy, in the main an idea that they will somehow get on there, though they cannot get on in the country, which proves in most cases a delusion; but in the main sense of Mr. Watts's remark we thoroughly agree. Of the other essays perhaps the most practical useful is Mr. Lethaby's on cabinet-making, with its little sketches showing how to fashion simple pieces of furniture. "Do not pretend," he says, "to cleverness or originality" (this is for the young workman employing his leisure in making things for himself), "consider place, use, size, strains, and other conditions of shape, make, and service. For, by putting your work together in the best practical way; by smoothing a surface, or rounding an edge as thought will suggest, you will reach the beauty of pleasant form, because you will have sound, sensible form." The suggestive sketches bear this out, unless we may take exception to the wavy outlines of the supports to the bench (fig. 7) which we do not quite see the advantage of, even in appearance. Mr. Gimson in his chapter on plaster work gives a wholesome piece of advice as to staying within the limits of plaster, and condemns the practice of teaching modelling in our schools from examples of carving; it may be excellent training, but tends to lead him into wrong ways of designing. Both this and Mr. Blomfield's paper would have been the better for a few sketches to explain more fully to the eye what is meant; but Mr. Blomfield's is a most practical paper apart from this, and concludes with some excellent advice as to the spirit in which natural forms should be adopted for use in the material. It is just here

that a sketch would have come in well; beginners do not always understand the meaning of directions in regard to a principle of working, though the meaning may be perfectly obvious to more experienced minds. Miss Morris gives a few illustrations chiefly of a practical kind as to the use of the needle in embroidery, and Mr. Heywood Sumner's chapter on the use of stencil plates is accompanied by some illustrations showing the adaptation of natural forms to the conditions of stencil work, without which the directions could hardly have been intelligible.

The book, as far as it goes, is one of the most useful and sound little works of the kind that has been published; and should be of use for others besides those whose lives especially want brightening. It might well be in the hands of all children as soon as they are come to an age to feel interest in making things for themselves, and learning to make them in the right way.

A. CARTAULT. *Terres Cuites Grecques Photographiées d'après les Originaux des Collections Privées de France et des Musées d'Athènes.* Paris: Colin et Cie. 29 pl. fr. 25.

THIS book is only mentioned by way of warning. It is little more than a specious snare set for the unwary, who are wholly unacquainted with recent investigations as to the authenticity of a certain class of terra-cottas. Not only does M. Cartault pay no manner of attention himself to the arguments by which M. Reinach has convinced, we may safely say, the whole scientific world, but he—and it is for this that we quarrel with him—suppresses all mention of a literature of whose existence he cannot well be ignorant. Glancing over the plates we find, *e.g.*, No. xviii., the Thetis seated on a dolphin, with the helmet of Achilles, and no word to hint that this manifestly modern forgery has ever been suspected; upwards of a dozen others out of the twenty-nine stray plates might be cited. After such evidence of incapacity it is not necessary to dwell on the shortcomings of the annoyingly pompous text.

Christian Thought in Architecture. By BARR FERREE. New York: American Society of Church History. 1892.

THIS is a reprint of a paper read by the author before the Society named on the title-page, and is a consideration of the extent to which Christian feeling is represented or symbolised in Gothic architecture. The ideas embodied in the paper are not new—in fact are rather old—to English readers. In regard to one point we may observe that the author is no doubt correct in upholding the view that the cross was not deliberately selected as the typical plan of the church for any symbolical reason; that it was evolved by natural steps from the ritual requirements of the early church, which first pushed out the side chapels from which the transept gradually developed. But it does not therefore follow that the frequent inclination of the choir northward was not symbolical. Although the *origin* of the cross form was not symbolical, there is no doubt that a symbolism of the cross was tacked on to it by the mediæval mind, and when once that idea was adopted the temptation to carry it further into detail was natural enough. The explanation that the peculiarity arose from careless setting out of the plan is hardly tenable, since there is no setting-out problem so easy and natural as that of aligning a long narrow building correctly on its axis.

The Geometrical Problem Solved. By W. D. DOUGLAS, of Cardiff. Cardiff: David Douglas & Co.

A SMALL manual designed for scientists and students, purporting to illustrate graphic methods of dividing any angle into any number of equal or fractional parts. The plan is ingenious, and described by fifteen propositions, in which the measuring or dividing of arcs of circles is rationally introduced as the most approximate method of geometrically dividing up a given angle, and as the author claims that the problems indicated in his book are infinite, so there is also no limit to the division of the angles discussed. The treatise is, however, more likely to be useful in setting out workshop drawings full size than when drawn to scale on a drawing-board, and would have been more suitable for a paper on the Transactions of a Mathematical Society than as a special text-book for students.

Oxborrow and Money-Kent's Universal Office Manual. London: Published by the authors, 17, Victoria-street, S.W.

THIS work contains a sensible treatise on counting-house and business routine, an exemplification of book-keeping on the modern double-entry system, and a number of specimen account-book page rulings and examples suitable for every description of business. The authors, in their preface, disclaim any desire to pose as exceptionally-qualified instructors of those who conduct their business on systematic principles, their work being primarily intended for the guidance of the, we fear, very large body of traders whose opportunities for acquiring sound business knowledge have not been great. We can cordially recommend the work. The lessons inculcated by it will, if taken to heart and acted upon, not only save many a man from filing a petition in bankruptcy, but will start him on the high road to success. The specimen pages of account-books include builders' prime-cost books (with separate sections for materials and wages), analyses of materials used and wages paid, summaries of materials and wages, workers' time record, manufacturers' cost-book, &c. The way in which these and other account-books should be kept is lucidly explained. The cost of the book, which is very well got up, is 5s.

Correspondence.

To the Editor of THE BUILDER.

ARCHITECTURAL EDUCATION.

SIR,—In reply to Mr. Cole A. Adams, may I try to clear up one or two points on which there appears to be some misunderstanding?

The two meetings referred to by Mr. Jackson in his letter to *A.A. Notes* had nothing whatever to do with one another.

The first was held at my office, as already stated. The second was held at Barnard's Inn, when about fifty architects, *all members of the Art Workers' Guild*, were present. It was this meeting that asked Mr. Jackson to inform the A.A. as to what was being done, and not the first.

What Mr. Adams says about my being "the Past-President of the A.A. who had brought the new educational scheme to the birth," ought to have been sufficient guarantee that I was not likely to try and strangle the child,—as he infers,—before it was even a year old. However, as there seems to be some doubt upon this point, I wish to state clearly that no such idea ever entered my mind.

Mr. Jackson did not suggest any such thing as sweeping away our present curriculum at our meeting; if he had, he would not have been listened to for a moment by any of the members of the A.A. who were present. On this point I am quite clear.

I am of opinion that the scheme we have started with so much trouble, and with which "the some half-dozen" have been so intimately connected, is a very good one, and with this Mr. Jackson generally agreed. The one point to which he took exception was,—not the scheme itself, as Mr. Adams states,—but the fact that it "*points* definitely to preparation for the Examinations of the Institute." Omit this pointing (which consists of some few paragraphs and foot-notes), amend your scheme in one or two small details, and we will help you, if you like, and your students can then go in for the examinations or not as they may elect. This is what Mr. Jackson told "the some half-dozen." In his letter to *A.A. Notes*, however, he puts his views into words so very different to those he used to us that, without some satisfactory explanation,—which I hope will be forthcoming,—it would obviously be quite impossible for the Association to accept his offer as it may at first sight appear to be laid down in *A.A. Notes*.

These, I have reason to believe, are generally speaking, the views of "the some half-dozen" members of the Association who met to confer with Mr. Jackson and his friends on the 15th inst.; and I venture to think that the general body of members of the A.A. will consider that we *were* serving their best interests in acting as we did.

LEONARD STOKES.

"GLASGOW ART GALLERIES."

SIR,—I have read your criticism upon my design for the above, and I am not sure whether it means,—on the average,—praise or the reverse. You say it is one of two of "outstanding merit," and go on at first to give it what seems to be a full measure of praise; but did you get sorry for what you said? For in the latter part the lash is laid on pretty hard.

If my design be a curious parallel to Sir G. Scott's "failure" at Gilmore-hill, it is quite accidental. I never heard of, nor saw,—either in print or reality,—the place; and as to the Central Hall, it was intended to be "*monumental*," and *not* like a music-hall,—if "The Oxford" or "The Pavilion" be the orthodox thing. But I think I read correctly the intentions of the Committee, as every one, including, I believe, Mr. Waterhouse, admired it. The vaulting is not "complicated," and I should be glad to know how a span of 70 ft. may be covered *in fireproof construction* in any simple manner, except with a roof like Cannon-street Station? You should not have drawn your criticisms from my internal perspective view of this, as I am quite aware it was a poor drawing.

As to style, what is one to do? Please to remember the cruel fact of a competition, we can only select what we believe will be most popular. It is seldom one can really consult one's own taste, or practise the style he thinks most true. In this, Mr. Waterhouse was the assessor; he won't have Classic. My father and I made a design for the Imperial Institute, which most people admitted to be fine; it would not do. We tried another style at South Kensington with equally bad luck, and now this,—of which I had much hope,—"with towers scattered broadcast," as you say, to produce "the Scotch baronial": all no use. Do let me know what you think is right and *fin de siècle*, so that I may do better the next time.

Anyhow, I must say for my design that it is no copy, either of Sir Gilbert Scott or Mr. Aston Webb, and I do not think my late friend and respected master, William Burges, A.R.A., would have been ashamed of his pupil on account of his latest effort at least.

THOS. MANLY DEANE.

3, *Upper Merrion-street, Dublin*, April 23, 1892.

*** We admired Mr. Deane's design, and did not intend to suggest otherwise; nor did we mean to imply that he had copied Scott. We did imply that neither Scott in his Glasgow University nor Mr. Deane in his Art Gallery design had succeeded in being genuinely Scotch in character. The central hall we said was "very fine," but not a "hall for music." This Mr. Deane admits. "Complicated vaulting" was not intended in a depreciatory sense.

As to the latter part of Mr. Deane's letter, we can only say that it is a melancholy confirmation of what we have often said as to the evil effect of competitions on architecture, the object being, as Mr. Deane so frankly admits, not to produce the best possible architecture but to secure the appointment. The "assessor" system in this respect seems to increase the evil—"So-and-so is the assessor; what is his favourite style? Let us go in for that." Truly a melancholy state of things for the art of architecture.—ED.

The Student's Column.

WARMING BUILDINGS BY HOT WATER.

XVIII.

INDEPENDENT BOILERS: BRICK-SET BOILERS.

AMONG types of independent boilers we may mention first Keith's Challenge Boiler (fig. 70), which is well-known, and for those purposes to which it is adapted it is decidedly successful. The peculiarity is in its internal construction, which, as before referred to, presents a very large area of direct heating surface in a comparatively small space. It is a cast boiler, and built up in sections as the illustration shows, and it can be seen that the power of the boiler can be increased, or the reverse, within certain limits by the addition or removal of some of the sections. The lower sections which constitute the furnace are convoluted inside, which about doubles the area of surface compared to flat plates. The upper sections are more complex, being partly convoluted, and also having cross water-way bars extending from side to side. Other devices of a similar nature are resorted to to increase the interior heat-receiving area. The fact of the parts being cast-iron permits of these varieties of surfaces being easily obtained in the manufacture, a result that would be difficult and costly to obtain (to this extent) with wrought plates.

If desired, the sections can be arranged for the feeding-door to be placed at a higher position, so that the boiler may be charged with coke to last several hours. This, however,

is not desirable if the full power of the boiler is needed. In fact, every boiler is at a disadvantage in being filled up in this manner with fuel, as the black mass in the upper part of the boiler effectively prevents the plates at that part receiving the heat that should be imparted to them, and the boiler is worked almost wholly by the glowing fuel in contact with the plates at bottom.

A boiler of this character must necessarily be coated with non-conducting compound, or surrounded with brickwork, to prevent loss of heat, and with a boiler having such a large direct heating surface, with comparatively little water, there should always be two or more flow pipes and returns. This boiler is made to heat up to 7,000 ft. of 4-in. pipe.

The last boiler of the independent order to be mentioned, is by the same maker, and

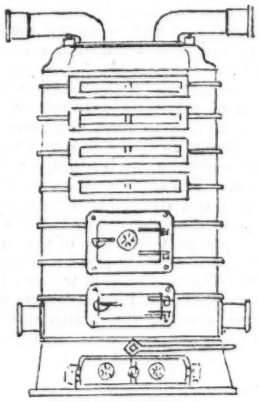

Fig 70

termed the "Python," as it is of a horizontal shape, and can be shortened or lengthened by the withdrawal or addition of sections. Fig. 71 shows the boiler in front elevation, but with the front casting, and its fire-doors, &c., removed. This boiler has a convoluted inner surface, top and sides, and a multiplicity of other heating surfaces, chiefly in the form of cross water-way bars. This, and also the last boiler mentioned, has fire-bars that, by the movement of a lever handle outside, set up a rocking motion to clear the bottom of the fire and assist in preventing clinker-forming. This arrangement prevents the too frequent opening of the stoking-doors. This is the most powerful boiler made, and is

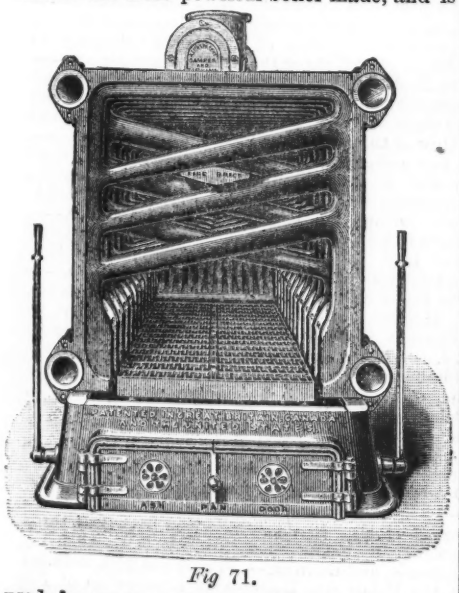

Fig 71.

used for such works as public washing and swimming baths and laundries.

The automatic damper, or draught-regulator shown in the flue-nozzle at back, is worth describing, as it acts upon a good and reliable principle. This damper is practically an Arnott's ventilator in its action, opening into the flue or chimney and permitting air to pass in, in variable quantity according to the extent that its flap is open. The flap or door is nicely pivotted at its lower edge, and by the use of a little balance weight it swings to and fro with very little impulse. Now, it is probably known to most of the readers that the draught in a chimney is very irregular, even within the space of a few minutes, at one moment being strong and another moment rather slack. This quick irregular action is generally due to wind, but a slower, but just as inconvenient irregularity is brought about by careless or insufficient attention to the fire. If an ordinary damper is left open a little too far and the attendant absents himself, a deal of annoyance may be experienced by the fierce burning of the fire, &c., and this automatic damper obviates this.

If we make an opening in a chimney a short distance above a stove or boiler, we shall find that an inrush of air immediately sets in through this aperture, and the current of air through the fire below will be reduced proportionately. Now, the automatic damper is this opening, but its balanced door or valve regulates the amount of air that passes in. If the fire commences to burn fiercely, the draught in the chimney at once becomes strong, but its strength in this case defeats itself, as it causes the valve to open and the inrush of air robs the fire below of draught which at once checks its fierceness. With the abatement of the fierceness, the draught in the chimney also slackens, and this allows the valve to wholly or partially close until called upon to act again. Any irregularity of draught caused by wind, and which would make the fire burn badly, is checked by the same means. Whether the fire or whether the wind is the cause of excessive draught in the chimney, this valve checks it just the same. (The draught in a close-fire kitchen-range can be regulated in precisely the same manner by inserting an Arnott's valve in the chimney-breast.)

Brick-set Boilers. — The shape that necessarily takes precedence in this description is the "saddle" boiler. It is one of the oldest forms we have, cheap to make, effective (up to a certain size), and its shape is calculated to benefit by the heat evolved from the fire. The addition of water-way ends front and back

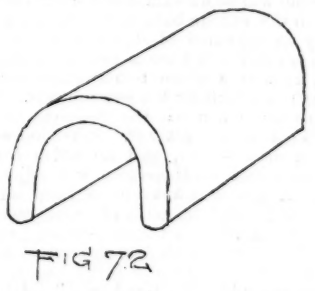

Fig 72

makes it as nearly perfect as a wrought boiler can be. When, however, we require a great quantity of pipe to be heated it is more economical in results to have some one of the more complex forms of boiler, which present a greater heating surface within a restricted area.

It will be noticed that with the saddle boiler, fig. 72, at a point about half way up, the plates begin to describe a half circle over the top, both outside and inside. This, in the writer's opinion, is a disadvantage, not so much inside, however, as outside.

With the outside flue, or indirect heating surface, it has been explained that plates which come beneath the source of heat are practically valueless, owing to flame and heated gases having no efficient contact with surfaces beneath them (unless the flue be choked somewhat, when an objection of another kind presents itself). In addition to this, these surfaces always have a collection of dirt upon them, which by itself would prevent a ready transfer of heat to the water. A square shape, as fig. 73, would give

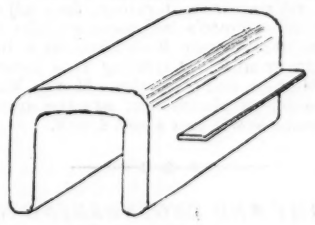

Fig 73

better results, as the inside and more effective direct heating surface would be increased and the vertical surface outside would be added to: vertical surface, notwithstanding its low value, being more useful than a surface beneath the source of heat. By having the boiler of this shape, the flame can be led up and down its length as usual, but along the side, the midfeather being central, as shown. The top, the useless surface, need not be made use of except to support the brickwork above, and this would reduce the cost of fixing. Most of the newer shapes, which follow the saddle somewhat, are of square cross section, and the top outer surface is not used except in the way just mentioned.

In fixing saddle-boilers (ordinary shape) there are two methods in common use, one being adapted for the smaller sizes and the other and more usual method for small and large sizes alike. The former method is to fix the boiler so that heat and heated products escape from beneath the boiler at all points, and so envelope the boiler without being specially conducted by flues to this end. It is a very effective method. Fig 74 shows in

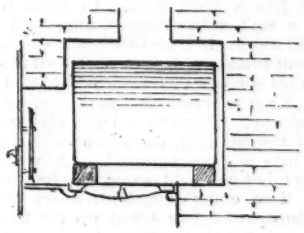

Fig 74

longitudinal section the boiler so fixed; it is set upon four fire-bricks, one at each corner, these raising it three inches above the fire-bars. By this means the draught in the chimney causes the heated gases to pass from the fire-box under the sides, and then embrace the outer surface of the boiler, as a moderately close-fitting arch is thrown over. The space between the boiler and the brickwork of the arch would be, say, three inches.

The illustration shows the chimney leading off from the centre at top, this can commonly be arranged and gives the best results; if, however, the chimney must be carried up at the back, then feathers must be introduced to keep the heat from inclining towards that point too much. It will be noticed that only a narrow space is left between the boiler and brickwork at front and back. The object of this is to prevent the too free escape of heated gases at these high points, as otherwise we should not get heat to pass under the lower sides. This space in question should be 1 in. to 1½ in. If the chimney was carried up at the extreme back, the boiler could be butted tight against the brickwork at that end. A damper to regulate the draught would have to be fitted in the brick chimney immediately where it starts at from the top. This is the usual, and the best and most convenient position for it. This method, as mentioned, is only suited for small boilers, as will be readily understood. It possesses a disadvantage in the fact that when the fire has been going slowly for a little time without attention, the passage-ways beneath the lower side edges of the boiler become choked with ash, &c., and the outer indirect heating surface has little of the heat. The less useful spaces at each end of the boiler would be more active then, but it would not do to stop or omit them. Boilers fixed in this manner will more quickly fail with accumulated dirt, than when they are fixed with their lower edges level with the fire bars.

OBITUARY.

Mr. R. J. Johnson, F.R.I.B.A.—We regret to hear of the death of Mr. Robert James Johnson, F.R.I.B.A., F.S.A., of Newcastle-on-Tyne and York. He died, after a long illness, on the 18th inst., at Tunbridge Wells, aged 60. He was elected an Associate of the Royal Institute of British Architects in 1861 and a Fellow in 1865.

Sir Gilbert Scott's Restorations.—We are compelled to hold over several letters on this subject, which will appear next week.

Steam Tree-felling and Cross-cutting Machinery.—Some fourteen or fifteen years ago Mr. Allen Ransome, of Chelsea, took out a patent for a steam tree-felling machine, and we were present at some practical trials of it made on the Roupell-park estate, Tulse-hill. (See *Builder* for January 19, 1878, p. 71, for an account of the trials). *Engineering* for last week (April 22) contains a description and illustrations of a new and improved form of tree-felling machine which is free from some of the difficulties experienced in the use of the old machine. By a simple mechanical contrivance, the machine can be partially rotated on its axis when required for cross-cutting.

GENERAL BUILDING NEWS.

LABOURERS' DWELLINGS IN MANCHESTER.—In the Ancoats district of Manchester, by the side of Jersey-street, a disused cotton-mill has just been converted into a dwelling-house in flats. The total accommodation is for 149 families. The block is seven stories in height. The total cost of the undertaking has been about 20,000*l*. All the old windows of the mill have been replaced with modern sashes. From top to bottom, both front and back, there are a series of iron balconies to which access is obtained from the staircases, four in number, and which have been erected at each corner of the building. These are of concrete and iron. The walls of the building are from 3 ft. thick at the bottom to 2 ft. at the top. Every floor is covered with concrete, resting on brick arches. Each room has a good light. In front of each window is a sink, with a supply, night and day, of hot and cold water. Self-cleansing water-closets are provided, and there are dust-shoots on all the floors. The balconies do not run from end to end of the structure. Each staircase and each landing has its separate balcony. There is a large playground at the back of the building, one end of which is to be converted into a drying-ground. A washhouse, with coppers, hot and cold water, &c., has also been provided. Two clubrooms, both apart from the main structure, are being fitted up for the use of the males and females. Each has separate conveniences. The clubroom for the men is 40 ft. 6 in. by 18 ft., that for the women 53 ft. 6 in. by 18 ft. 6 in. Baths have also been provided for both sexes, each supplied with hot and cold water. Every dwelling has a cupboard. A double system of ventilation has been provided for the water-closets. Mr. C. J. Maycock, of Manchester, was the architect, and the work has been carried out for the Manchester Labourers' Dwellings Company, Ltd.

TRADE SCHOOL, BRUTON, SOMERSET. — The opening of the new buildings of Sexey's Trade School, Bruton, took place on the 19th inst. The buildings have been erected from designs by Mr. George J. Skipper, of Norwich, by Messrs. Francis & Sons, of Castle Cary, and cost over £3,000. They consist of a master's residence, with principal schoolroom, class-rooms, chemical laboratory, workshops, dining-room, cloak-room, lavatory, &c. The laboratory has been fitted for twenty students. Gas and water are laid on. The workshop is fitted with benches, &c.

PROPOSED SALVATION ARMY "CITADEL," ABERDEEN.—This proposed block of buildings, the plans of which have just been approved of, will occupy a site at the east end of Castle-street, with a frontage of 160 ft. The barracks have been designed in the Scottish Baronial style, and the whole building will be of blocked stone, finely axed. Almost the whole of the ground and basement floors will be occupied as shops, several of which will be the largest in Aberdeen, being about 40 by 80 ft., and about 20 ft. high. On the first floor, and to the south of the tower, there will be a hall capable of accommodating 2,000 persons, the three front windows forming features in the front elevation. Over the front entrance of the building there will be oriel windows hung on projecting corbels, and the block at its chief corners will be flanked by round towers, about 100 ft. in height. A prominent feature of the building will be a large tower. At the foot of the tower there will be the grand entrance to the Citadel, an archway 20 ft. wide by 30 ft. high, with massive piers, and an arch containing ornamental stones, on which it is proposed to put the initials and crests of leading men who are taking an interest in the erection of the building, which is estimated to cost about 15,000*l*., and has been designed by Mr. James Souttar, architect, of Aberdeen.

PARISH BUILDING, ALL SAINTS', PLYMOUTH.—The corner-stone of the new Parish Building for All Saints', Plymouth, was laid on the 23rd inst. by Mr. Shelly, of Plymouth. The cost of the building will be about 1,250*l*., and it is to be completed by October next. The materials for the structure are the same as used in building the vicarage by Mr. John D. Sedding five years ago—namely local limestone and red brick. Mr. Edmund Sedding, of Plymouth, is the architect, and Mr. Blowey of the same town is the builder.

CONVENT OF MERCY, GRANARD, CO. LONGFORD. On the 21st inst. the ceremony of laying and blessing the foundation-stone of the Convent of Mercy, Granard, was performed by the Rev. Dr. Woodlock. The general plan of the building comprises an entrance-hall and staircase, with parlours and reception-rooms, community-room, &c.; culinary apartments, cells, and a suitable oratory placed in a convenient position. The architect is Mr. Wm. Hague, of Dublin, and the contractor Mr. P. Kelly, of Longford.

REOPENING OF HANMER CHURCH, FLINTSHIRE.—On the 19th inst. the parish church of Hanmer, in the detached portion of Flintshire, which was almost destroyed by fire in 1889, was reopened, after restoration, by the Bishop of St. Asaph. The church, says the *Birmingham Gazette*, was not insured, but immediately after the fire steps were taken for its reconstruction, Messrs. Bodley & Garner, of London, being the architects entrusted with the work, the estimated cost being about 10,000*l*. The architects have been able, by means of photographs, to reproduce the ceiling of the north aisle, and, with the exception of the chancel, the restoration has been carried out, as far as possible, upon conservative lines. The chancel has not been restored, it being decided to build one more in character with the rest of the church. The new chancel is larger than the old, and an organ-chamber and vestry have been added. The pulpit and font are the work of Mr. Forsyth, from designs by Mr. Bodley, and the screen was entrusted to Mr. Douglas, of Chester.

COUNTY TRUANTS' SCHOOL, QUAKER'S-YARD, GLAMORGAN.—Tenders have just been accepted for the erection of a Truants' School at Quaker's-yard, Glamorgan. The buildings will provide a large schoolroom, with a portion divided off at one end by a sliding partition, forming a class-room, dining-hall, plunge-bath, three dormitories, drill-shed, and workshop. In addition, a laundry, with drying and ironing room, will be provided, with top lights, and supplied with stored rain-water; a reception-room for new-comers, and a disinfecting-room, with separate entrance from the outside. There will be three entrances to the buildings. At the main entrance, for the Board and visitors, there will be a large vestibule and hall. The superintendent has a wing of the building to himself, with all necessary conveniences and private staircase. Two other staircases will be provided, both of Forest stone, one in the boys' hall and the other in the servants' hall. The dormitories will be provided with inspection-chambers, entered from the master's rooms. On the same floor and under the matron's supervision will be sick and convalescent sitting-rooms. Adjoining the former, but disconnected, and with separate staircase entrance and conveniences, will be provided a room for the reception and isolation of cases of infectious diseases. The matron and staff will be accommodated with private apartments. The linen and store-rooms will be kept aired by means of pipes from the heating apparatus. It is proposed to heat the main building by hot-water, and the cooking will be done by steam. In the disinfecting-room will be a steam disinfecting machine. The water to the plunge-bath and lavatory will be warmed by an injection of steam, and the wash tubs in the laundry will have a continual supply of hot water, kept at a given temperature throughout washing operations by the same means. There being no sewer to connect the drainage to, it is proposed to collect and filter it. Provision will be made for a board-room, and an office for the superintendent and waiting-room will adjoin the main hall. A fire hydrant will be fixed on each floor. The walls will be built of local stone, the front and sides faced with hammer-dressed random ranged work, relieved with box-ground stone and buff, and red terra-cotta and brick bands. It is proposed to use plain "hit-and-miss" inlets and Kite's patent automatic exhaust ventilators. The building is designed in the Italian Renaissance style, and the plans, which were selected in open competition, have been prepared by Mr. W. H. Dashwood Caple, architect, of Cardiff. The design and plans have been approved by the Home Office and the Education Department. The tender of Messrs. Stephens, Bastow, & Co., of Bristol, has been accepted at 6,279*l*.

LIBERAL CLUB, BACUP.—On the 9th inst. the foundation stones of a new Liberal Club were laid at Hempsteads, Bacup, Lancashire. The club will be built of stone,—parpoint facing and stone dressing,—and the style will be English Renaissance. The new building contains, on the ground-floor, a vestibule, with screen doors leading into the corridor. On the right-hand side is a billiard-room, 27 ft. by 21 ft.; on the left-hand side is the news-room, 27 ft. by 21 ft., with an octagon projecting window at the angle; at the back of these two rooms is the steward's serving-room, lavatory, and kitchen, with a side entrance and staircase to be used for public entertainments only, and which leads to the large assembly-room. The first pair floor is approached by a staircase 4 ft. wide, and contains a public room, 51 ft. by 29 ft., capable of holding 400 to 500 people, with a raised platform at one end, and having a retiring-room, lavatory, &c., adjoining; lavatories and steward's bedrooms are also on this floor. The second pair floor contains a billiard-room, 51 ft. by 27 ft. Adjoining is a committee-room, card-room, and lavatories. Messrs. Mangnall & Littlewoods, of Manchester, are the architects, and the premises will cost about 4,000*l*.

SANITARY AND ENGINEERING NEWS.

THE INCORPORATED ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.—This Friday and Saturday (April 29 and 30) the Incorporated Association of Municipal and County Engineers will hold a meeting at Nottingham. Papers will be read, (1) "On Municipal Works in Nottingham," by Mr. Arthur Brown, the Borough Engineer; (2) "On Public Health Acts Amendment," by Mr. W. Spinks; and (3) "On County Management of Main Roads," by Mr. James Robinson, County Surveyor of Hampshire. Visits will be paid to the sewage farm, the epidemic hospital, and other places.

THE TUNNELS UNDER THE CLYDE AT GLASGOW.—Work on the Glasgow Harbour tunnels has been proceeding without interruption since last autumn, according to *Industries*. Only about 100 ft. of the west tunnel remain to be driven, while the heading of the east tunnel has been advanced about 60 ft. from the south bank. The material encountered is boulder-clay on the south side, thinning off to sand and gravel. No large boulders have yet been met. The maximum progress of the shields in the clay has been 2 ft., and in the sand 3 ft. The air-pressure has never exceeded 160 lb. The shields are 17 ft. in diameter by 7 ft. in length, the shells being built up of two ½ in. plates and 3½ in. by 3½ in. angles. The rams are of cast-steel, and worked under a water pressure of 1,000 by means of two hand-pumps attached to the shield itself. In the west tunnel a brick wall forms the entrance to the air-chamber, while in the east tunnel a stiff steel diaphragm is used.

WINCANTON SEWERAGE.—The Wincanton Rural Sanitary Authority have called in Mr. A. P. I. Cotterell, Assoc. M. Inst. C.E., of Bristol, to advise them as to what may be done to improve the purification of the sewage at their disposal works. Mr. Cotterell has visited the town, and recommended the adoption of the International Sewage Purification Co.'s system, with polarite filter beds, but with a new form of precipitating tank not hitherto used in this country. The tank is constructed like a circular well, about 25 feet deep, and the sewage is conducted by a pipe to the bottom, precipitating as it slowly rises. The sludge which collects at the bottom is pumped out daily without emptying the tank. The top is covered in, and the sewage is not, therefore, open to the action of the sun's rays. These tanks are, it is stated, already in successful operation on the Continent, and we are informed that experiments made in England have produced very satisfactory results, much superior to those from the usual form of tank. The Sanitary Authority are now considering the report.

FOREIGN AND COLONIAL.

FRANCE.—MM. Gustave Moreau and Carolus Duran have been appointed members of the Conseil Supérieur des Beaux-Arts, in place of the late M. Delaunay and of M. Bonnat who has become President of the Société des Artistes Français.——By a decision of the Minister of Public Instruction, the Prix de Salon" given each year to a painter, a sculptor, an architect, or an engraver alternately, will henceforth be known as the "Prix de Paris." The prize cannot be given to an artist older than 32, and is accompanied by a sum of 10,000 fr. payable in two annuities, to enable the holder to travel for two years.——An exhibition of the works of Raffet is to be opened at the Galérie Georges Petit, the proceeds to go towards a monument, consisting of a column surmounted by a bust, and surrounded by French soldiers.——M. Maze Leucier has left to the Carnavalet Museum a curious collection of snuff-boxes belonging to political celebrities of the revolutionary period.——The Ecole des Beaux-Arts has set apart a special room for the valuable collection of manuscripts and drawings offered by Madame Lesoufaché, the widow of the architect who died two years ago.——A fine ceiling attributed to Miguard has been fixed in one of the rooms of the Gobelins Museum; it represents Apollo playing the lyre. It is said to have formed the ceiling of Lebrun's atelier.——There is talk of building a large military hospital near Issy, to replace the St. Martin and Gros Caillou hospitals which are now inadequate.——The first stone of a large boys' school has been laid at Meudon. —— A bronze statue of Rouget de l'Isle was inaugurated last Sunday at Choisy-le-Roi.——There has just been opened at the Hôtel de Ville at Paris an exhibition of the designs sent in by MM. Courselle Dumont, Delance, J. Ferry, Prouvé, and Simas for the second competition for the decoration of the Salle des Banquets. The decision will be made known during the week. The design of M. Delance appears to us far superior to the others. ——The second competition for the Beaumarchais statue is also to be settled shortly. The three designs in competition are by MM. Allouard, Clausade, and Lormier.——There has been installed in the Palais des Beaux-Arts a collection of the views of old Paris, executed by M. Hoffbauer, and which formed, some years ago, the diorama of "Paris à travers les ages" exhibited at the Champs Elysées. These views have been presented to the Paris municipality by M. Firmin Didot, the well-known publisher.

BERLIN.—The Special Committee of members of the Town Executive and the Common Council, elected by the Municipal Authorities of Berlin to consider matters relating to the proposed opening of an International Exhibition in that city, has decided in favour of the scheme, and has recommended that the greatest possible assistance be given to those entrusted with the arrangement of the exhibition. The committee will now consider in what form the assistance is to be given. The Imperial Chancellor has now also assured the Chamber of Commerce of the Government's interest and aid. It may therefore now be taken for granted that the exhibition will come off. The German public seem to be greatly in favour of the

idea, and the press throughout the country has taken it up warmly. Some doubt, however, still exists as to the feeling in the German trades. Continental exhibition at the large international shows, at the national and the various local ones, has of late been felt as a great burden, especially as the exertions made have not had much commercial result. —— There is still a probability of the Emperor's idea of having further alterations made in the vicinity of his "Schloss" being carried out, in spite of the enormous expenditure which would have to be covered by the profits off another lottery.——The Bill put before the Prussian "Landtag" relating to the extension of the Government Railway System proposes that some ninety millions of marks shall be spent in the course of a few years on "special extensions." Of this sum 26,000,000 marks will be required for new lines, some 44,000,000 marks for the extension and alteration of existing ones, and 10,000,000 marks for rolling stock.——The municipal authorities have decided to erect a so-called "Provincial" museum in which some local collections and several libraries are to have room found for them. A suitable site for the museum building has been found, and a competition for designs (three prizes, 2,500, 1,500, and 1,000 marks) is to be opened.—— The Municipal Authorities of Berlin have for some time back been paying attention to the various advantages and disadvantages of cremation. They have now decided to introduce cremation in the Municipal burial-grounds, and hence all unidentified corpses, as well as those of paupers, &c., having no relations or friends who might be adverse to this mode of proceeding, will henceforward be thus disposed of. Instead of using the usual urn, a zinc box some 15 cm. cube will be used as a receptacle for the ashes, and the numbers or names relating to the contents will be marked on small copper plates, which are to be enclosed with the remains, as well as in black figures or letters on the outside. The apparatus necessary for the burning process has been ordered. The Schneider system is to be used.

Vienna.—The "International" Theatrical and Musical Exhibition is to be officially opened on May 7.

Switzerland.—The committee in charge of the affairs pertaining to the proposed erection of a large block containing concert and assembly rooms for Zurich are apparently not satisfied with the result of the (second) competition lately held for the purpose of obtaining a suitable design. Herr Bruno Schmitz, of Berlin, who took the first prize in both competitions, is not likely to have the erection of the block, as Messrs. Fellmer & Helmer, the Vienna theatre specialists (who have put up the new municipal theatre at Zurich last year), and Professor F. Bluntschli, of Zurich, have now been invited to tender designs. It is true that Bruno Schmitz's work is to serve as a basis for the designs, but that will give but little satisfaction to the architect or his friends. Apparently Messrs. Fellmer & Helmer are favourites of the committee, as they were invited at once after the issue of the competition; Professor Bluntschli was only invited after the Swiss architects had expressed their disgust. That the German professional journals are by no means very gentle in their criticism on the behaviour of the committee is only natural.—— Some thirty designs were sent in for the competition for the design of a Tell Monument at Altdorf. The first prize (2,500 francs) was given to the sculptor, R. Kissling, of Riesbach, Zurich.

Information for Emigrants. — The April Circulars of the Emigrants' Information Office, and the new annual editions of the penny and other handbooks, with maps, which have just been issued, show the present prospects of emigration. Branch offices are now organised at Bradford (Yorks), Bury St. Edmunds, Cardiff, Devizes, Glasgow, Hereford, Leamington, Leeds, Liverpool, and Reading, mostly in connexion with Free Public Libraries, where all the above publications and other information may also be obtained. This is the best season of the year to go to Canada, and there is likely to be a good demand for farm labourers, and to a less extent for general labourers and navvies and for mechanics in the building trades. In New South Wales and Victoria mechanics are not wanted, except in a few districts, and in Victoria especially the depression is great. The Queensland Government withdrew their free passages last February, so that now all except nominated and indented emigrants have to pay full fares. There is no demand whatever for mechanics in Queensland, many carpenters, plumbers, and general labourers have been out of work, and no one should go there at present on the chance of finding employment. Western Australia offers free and reduced passages to certain classes of emigrants, but free passages for farm labourers have just been suspended. Work there has been much brisker than for some time past, and there is a demand for a limited number of farm labourers, men in the building trades, miners, and labourers on railways and public works. In Tasmania the chief demand is for miners, farm labourers, and a few country blacksmiths; the new silver mines at Zeehan on the West Coast are giving employment to considerable numbers of miners, railway navvies, and small traders. In various districts of New Zealand there is a demand for farm and station hands and for miners. Cape Colony and Natal offer reduced passages to mechanics, female servants, and others, for whom there is a limited demand. Government Labour Bureaus have recently been opened in New South Wales, Queensland, and New Zealand. Emigrants on arrival should apply to the head offices at Sydney, Brisbane, or Wellington, or to one of the country branches, which are very numerous. The warnings already issued by the Emigrants' Information Office against emigration to South America still hold good. Intending emigrants are especially strongly warned not to go to Brazil at the present time.

MISCELLANEOUS.

Builders' Clerks' Benevolent Institution: Election of Pensioners.—A special general meeting of the donors and subscribers took place on Tuesday last, at the offices of the Institution, 21, New Bridge-street, E.C. The President, Mr. Colin G. Patrick, who occupied the chair, stated that as there were but two candidates, it had been decided that the election should be by show of hands. The candidates were Mr. William Marcham, and Mrs. Mary E. Robb, and after some particulars respecting each had been given by the President, they were elected in due course, the former to the Clerks' Pension of 25*l.* per annum, and the latter to the Widows' Pension of 20*l.* per annum. A vote of thanks was accorded to the chairman at the close of the business.

A New Irish Seal.—A new great seal for Ireland has been completed by Mr. Allan Wyon, chief engraver of her Majesty's seals, to take the place of the seal designed on the accession of the Queen, which is now worn out. The new seal is an exact replica of its predecessor, and is similar in all respects to the great seal of England, save that in the exergue a harp with shamrock leaves takes the place of the trident-head and sprays of oak, which form the distinctive mark of the English seal. The material is silver, the weight of the whole about 15 lb., and the diameter of the impression is 6¼ in. —*Irish Builder.*

The Novelty Theatre, Great Queen-street. —This property, having a lease for 69 years unexpired, will, by order of the mortgagees, be offered for sale at the mart, on May 20 next. The premises have a second frontage, with entrances, in Parker-street. They were built from the plans and designs of Mr. Thomas Verity, architect; the theatre was opened on December 9, 1882, under its present style; but for an interval was known as Jodrell's. We may supplement the tale of celebrated residents in Great Queen-street, as given in the guide-books, by stating that Mr. Frederick Crace, who formed the collection of maps, plans, prints, and drawings of London,—purchased from his son, Mr. John Gregory Crace, for the British Museum,—lived for a while in the house on the southern side, into which Sir Godfrey Kneller removed from the Piazza, Covent Garden; and that the *Mercurius Politicus* for the week November 19—26, 1657, contains an advertisement of the robbery from the Earl of Chesterfield's, in this street, of certain "pictures" in gold and in jewelled cases.

The Sanitary Institute's Examination for Inspectors of Nuisances.—At an examination for Inspectors of Nuisances, held in London by the Sanitary Institute on April 8 and 9, 105 candidates presented themselves. Questions were set to be answered in writing on the 8th, and the candidates were examined *viva voce* on the 9th. Sixty-eight candidates were certified to be competent, as regards their sanitary knowledge, to discharge the duties of Inspector of Nuisances.

Chicago Exhibition, 1893.—The *Journal of the Society of Arts* announces, on behalf of the Royal Commission for this Exhibition, that, her Majesty's Government, having increased the grant placed at their disposal for the purposes of the British Section from 25,000*l.* to 60,000*l.*, they can dispense with any charges for space at the Exhibition, and will return to the intending exhibitors the amounts already paid on that account. The available space in the General Manufactures Building is now almost entirely filled. In the Agricultural Building, and in the Machinery Building, space is still available. All applications for space must be made upon forms to be obtained from the Secretary of the Commission, at their offices, John-street, Adelphi, London. The French Chamber of Deputies have just voted 130,000*l.* as a grant for the proper representation of France at the Exhibition.

French Road-making.—The British Vice-Consul at Dieppe, in his last report, says that the roads which surround the docks, and the national roads which lead out of the town on the east and on the west, have been made with an exceptionally good quality of stone, of singular hardness and durability, which was brought from Cherbourg. In fact, it is so hard that it will cut glass. It is broken up into macadam, and forms splendid material for making roads. Her Majesty's Consul at Cherbourg mentioned this stone very favourably in his report for 1890, and its use has proved so satisfactory in Dieppe, that the Vice-Consul thinks it might be worth inquiring whether it could be employed on some of our English roads, where a lesson in road-making might be learnt with advantage from the French *cantonnier*. The material is usually marble, flint, stone, or gravel, and whatever is used must be of the best quality and cleansed from all foreign substances. The stone must be broken up so that each piece may pass through a ring 2½ in. in diameter. It is then spread evenly over the road, the interstices being carefully filled in with smaller pieces, so that the whole is smooth and free from abrupt eminences and depressions. A steam-roller then crushes and levels the whole, after which a superficial layer of clay and earth completes the work. In Normandy, where the roads are perfect, they are made slightly convex, with a trench on each side, and are diligently scraped to keep them dry. One of the most important ingredients used in road-making is a little chalk, which helps to bind and consolidate the macadam or small stones into a firm and hard mass. If too much chalk were used it would render the roads sticky after frost.—*Times.*

Robinson's Improved Plastering.—A demonstration of the qualities and modes of application of Robinson's "Fireproof Cement and Paragon Plaster" was given at a new building (No. 48, Chancery-lane) on Saturday, the 23rd inst., by permission of the architects (Messrs. Somers Clarke and J. T. Micklethwaite) and the builders (Messrs. Langdale & Hallett). One of the advantages claimed by the manufacturers, and apparently with justice, is that by the use of the "Paragon Plaster" the plasterers "can commence in a room in the morning and completely finish it before the day is out, without previously having been in to first coat." The next day there is a hard surface, which continues to harden, until the result is a wall or ceiling which will withstand damage even from the exercise of a considerable amount of force, as was demonstrated in our presence on the ceiling of a room which had only been finished a week previously. The manufacturers claim that walls, ceilings, battened or strapped walls and stoothed partitions which are coated with this material will never crack. Used pure, the "Paragon" plaster lays on the ceiling like gauged putty. Floating coats can be used with or without sand, but if sand is used it must be clean sharp river or pit sand. Finished with a thin coat of Robinson's "No. 1" cement, this plaster makes admirable work. Messrs. Robinson & Co. are also introducing a new and simple form of lathless ceiling, in which their "Paragon" plaster is laid between and is carried by the joists, a light temporary centreing of floor-boards being required until the plaster has set. Where rolled-iron joists are used, the bottom flange supports the plaster: in the case of wooden joists, fillets or cleats are nailed on to serve as bearings. Messrs. Robinson's specialities will be on view in the room in Chancery-lane, to which we have referred, up to the end of this week.

Recent Sanitary Catalogues.—Messrs. Young & Marten, of the Caledonian Works, Stratford, have sent us their new illustrated catalogue of plumbers' brasswork, cast-iron and earthenware goods, and other requisites for sanitary work. It consists of 96 pages of well-arranged and well-printed illustrated letterpress. It is a very complete and useful production, and contains an abundance of good things. From this category, however, we must exclude the appliance represented by fig. 91, on page 40, which is no other than the old-fashioned and now generally-condemned pan-closet, with its abominable filth "container." We had hoped that the pan-closet was rapidly becoming a thing of the past, so far as new "installations" of it are concerned; it has disappeared from the catalogues of some manufacturers and merchants, and we can only regret that Messrs. Young & Marten express their willingness to supply it, in these days of supposed sanitary enlightenment. We shall no doubt be told that manufacturers and merchants are "compelled" to make and supply this bad old form of closet; some years ago we were told by a manufacturer that he was compelled to make and stock it for his country and foreign trade, and that he "regretted" that its sale averaged a dozen a week. Messrs. Young & Marten also send us their "Tariff No. 16," which is the most complete they have yet issued, containing as it does 120 pages of illustrated letter-press and a few pages of chromo-lithography. It includes illustrations, descriptions, and prices of a large selection of stock articles, including traps, waste-preventing flushing cisterns, cowls, ventilators, brasswork, plumbers' tools, pumps, baths, water-closets, lavatories, urinals, leaded glasswork, oils, colours, varnishes, chimney-pieces, tile hearths, stoves, grates, ranges, locks, door furniture, builders' ironmongery, &c. Both these catalogues will be found exceedingly useful in every builder's office.

The English Iron Trade.—There continues to be little of note stirring in the iron trade, which maintains its lethargic condition. The Durham coal-miners' strike seems as far off settlement as ever, and while this prevails business must necessarily be withheld. Prices throughout the trade are fairly upheld; but the orders coming forward are extremely limited. In the steel trade, the furnaces at Barrow have been re-started. Tinplates remain dull. The return to work of the engineers

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premium.	Designs to be delivered.
*Extension of Queen's Parade	Kingston-upon-Thames Corporation	21*l.* & 10*l.* 10s.	June 13
*Municipal Technical School	Manchester Corp.	Not stated	Aug. 2

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Alterations to Workhouse, Ponteland	Castle Ward Union	W. Lister Newcombe	May 3
Thirty-one Houses, Penrhiwceiber, Glam.	Cym Cynon Building Club	C. Bailey	do.
Granite Road Metal	Crewe Town Council	*Official*	do.
*Broken Granite	Middlesex C. C.	do.	May 4
*Roadmaking Works	Lewisham Bd. of Wks	do.	do.
Boundary Walls &c. Porth, Pontypridd	Llanwonno School Bd.	do.	do.
Schools, House, &c. Westmoor	Loughinton Sch. Bd.	Wm. Hope	do.
Linoleum Works, Extension to Offices, &c. Northallerton	Tarpaulin, Brattice-Cloth, and Linoleum Co. Lim.	.....	do.
Schools, House, Offices, &c.	Knottingley (Leeds) School Board	J. H. Greaves	do.
Villa, Stabling, Walls, &c. Cogenhoe, Northampton	.....	H. H. Dyer & Sons	do.
Sewerage Works	Chester-le-StreetURSA	D. Balfour	May 5
Public Hall and Institute, Treharris, Glam.	Treharris Public Hall & Institute (Lim.)	.....	do.
*Gasholder Tank in Concrete	Caterham and District Gas, &c. Co.	G. W. Anderson	do.
Cast-iron Water-pipes, Valves, Hydrants, &c.	Blaydon Local Board	Michael Hawdon	do.
Large Additions to Hydropathic Establishment	Harrogate Hydropathic Co.	J. Lane Fox	do.
*Slaughterhouses, Cattle Market, &c.	Aberdare Market Co.	T. Roderick	do.
*Concrete Gasholder Tank	East Grinstead Gas & Water Co.	*Official*	do.
*Cleansing and Painting Station Roofing St Pancras	Midland Railway	do.	May 6
*Extension of Fitting Shop, Manchester	do.	do.	do.
*Extension of Gas Works, Chelmsford	do.	do.	do.
*Building for Electric Light Machinery, Derby	do	do.	do.
Whinstone Road Metal (1,300 tons)	Great Driffield Loc. B.	do.	May 7
*Police Station and Lock-up House, &c.	Breconshire C. C.	do.	do.
Asphalting or Tar Pavement (3,800 yds.)	South Gosforth L. B.	C. J. Banff	do.
*Painting, Repairs, and Alterations to Infirmary	St. Marylebone Guar.	*Official*	May 9

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Wood Paving Blocks	St. Marylebone Vestry	*Official*	May 9
*Supply of Road Materials	Kingston-upon-Thames Corporation	do.	do.
Enlargement of School, Waunarlwydd	Swansea School Board	do.	do.
Additions to School, &c. Pentre	Ystradyfodwg Sch. Bd.	J. Rees	do.
Hotel, Craigellachie, Elgin, N.B.	.....	C. C. Doig	May 10
*Painting, &c. Workhouse	Strand Union	W. S. Cross	do.
*Making-up and Paving Roads	Fulham Vestry	W. Sykes	May 11
*Boundary Wall	do.	J. P. Norrington	do.
*Pipe Sewer, &c	do.	do.	do.
*Wood Paving, &c.	do.	do.	do.
Rebuilding "Royal Oak," Machen, Newport (Mon.)	Griffiths, Bros. (Lim.)	E. A. Lansdowne	do.
Golf Club House, Stotfield, Elgin, N.B.	.....	A. & W. Reid	do.
*Iron and Stoneware Pipe Sewers	Watford U.R.S.A.	Urban Smith	May 14
*Sewerage and Drainage Works	St. Albans Corp.	*Official*	May 17
*New Wards, Staircases, Bath Accommodation, &c.	Stoke-on-Trent Guar.	do.	May 18
*Painting and Decorating Town Hall	Leeds Corporation	do.	May 19
*Sheds, Latrines, &c. Penzance	Admiralty	do.	May 20
*Sewerage Works	Fareham Loc. Bd.	do.	May 21
*New Class-room at Girls' School	Walthamstow Sch. Bd.	W. A. Longmore	May 24
Settling Tanks and Sewerage Works	Methley Loc. Bd.	J. Richardson	May 27
*Iron Swing Bridge	Sandwich Corp.	A. J. Catt	May 28
Warehouse and Offices, Bridge-street, Bristol	Lindrea & Co.	H. J. Jones	No date
Forty-three Houses, Gilfach Goch, near Bridgend	Evanstown Bldg. Soc.	*Official*	do.
Additions to Workhouse	Stoke-upon-Trent Union	do.	do.
Residence for Chief Constable, St. Giles'-street	Northampton Corp.	do.	do.
Semi-detached Villas, South Wylam, Newcastle-on-Tyne	Williamson & Gibson	.....	do
Smith's Shop, Additions to House, &c. Watergate, Hipperholme, Halifax	.....	Raymond Berry	do.
Alterations, "Old Golden Lion" Hotel, Leeds	Henry France	T. Winn	do.
Chapel and Schools, Rotherham	.....	Thomas Howdill	do.
Two Shops, Westbar, Sheffield	T. Blow	A. Appleby	do.
*Painting Works, Woolwich	War Department	*Official*	do.
*Schoolmaster's, &c. Quarters, Warwick	do.	do.	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Clerk of Works	Wakefield Corp.	Not stated	May 7
*Assistant Inspector of Nuisances	Plymouth T. C.	80*l.* rising to 110*l.*	May 19

Those marked with an Asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi., & viii. *Public Appointments, p.* xx. & xxi.

on the Tyne who have been on strike is to be recorded with satisfaction. Ship-building is rather depressed, except on the west coast. The coal trade is rather quiet.—*Iron.*

EDINBURGH ARCHITECTURAL ASSOCIATION.—On the 23rd inst. about twenty members of this Association paid a visit to Falkirk and Callendar House and grounds, the latter being thrown open to them by Mr. Forbes of Callendar. The excursionists afterwards visited the Antonine Wall, which runs through Callendar grounds.

THE LONDON WATER QUESTION.—Apart from the fact that our water charges are unfair, and our supply not what it should be, advocates of the tedious process of a Royal Commission should bear in mind that London is growing at an alarming rate, and, as the sources of supply are not being increased, the quality of the water will deteriorate as the quantity required increases. We are now face to face with the fact that we are asking the London water companies to supply us with eight million gallons daily more than we required last year. Every day we postpone the solution we are nearing the great water famine.—*Local Government Journal.*

ENAMELLED METAL.—Messrs. Angles Ward & Co. send some specimens of coloured enamel on thin metal, representing a process which they have patented and by which they claim that colour can be applied in this way much more cheaply than by any other process. Of course the value of the special system entirely depends on this, as enamelling on metal is nothing new. The specimens sent are very poor in design, but they seem to show that good colour effects may be produced by the process, in the hands of a good designer.

FORTHCOMING EXHIBITION OF INDIAN METALWORK.—An exhibition of Indian metalwork is to be held at the Imperial Institute early in June next. The Maharajah of Jeypore is sending a very complete collection, and it is expected that his example will be followed by the rulers of other feudatory states. The British authorities, as well as private owners in India, have been specially invited to contribute any artistic specimens in their possession. Many collectors at home promise interesting exhibits, and the show of armour and weapons ought to be unique. There is to be a section solely for the purpose of discovering how dealers can meet the increasing demand for metalware manufactured in our Eastern Empire. Some valuable jewellery will be displayed in a separate apartment. A suite of fine rooms has been set apart for the exhibition, and an experienced committee, with Surgeon Lieutenant-Colonel Hendley as its honorary secretary, is actively engaged in the work of organisation.—*Iron and Coal Trades Review.*

THE EARLY DAYS OF KEENE'S CEMENT.—Looking casually through the number of the *Printers, Stationers, and Kindred Trades' Effective Advertiser* for March, we met with a few lines referring to the early days of Keene's cement in a biographical notice of Mr. E. G. Tomsett, a well-known printer and a prominent supporter of the printing trade charities, who is now connected with Lloyd's *Register of Shipping*. Mr. Tomsett, it is stated, "was born at Alfort, near Fort Charenton, in France, where his father had settled a few years previously in conjunction with Mr. R. Keene, the inventor of Keene's patent cement, and set up a factory for turning out large quantities of cement, mosaic pavement, and imitation alabaster, for clock pedestals, then coming into favour." It is stated that Messrs. Keene and Tomsett found it necessary to carry on their business in the part of France referred to "in consequence of some quarries of a particular stone, essential to their business, being there." Mr. Tomsett and his family left France in 1848.

A BIG RAFT.—It is understood that the idea of towing large quantities of logs in cigar-shaped rafts is becoming very popular on the Pacific coast, and is giving, generally, success. The inventor of the Joggins system, Mr. H. H. Robinson, of St. John, N.B., is constructing a large raft of timber at Fort Bragg, for the Fort Bragg Redwood Company, and which, when completed, will be transported to San Francisco. The raft will carry a crew, and will consequently be equipped with rudder and steering gear, besides a complete code of signals for night and day use, anchors, chain, &c. The affair will be 360 by 36 ft. at the centre, and will contain 3,000 piling sticks.—*Timber.*

LEGAL.

LAW REPORTS IN "THE BUILDER."—The *Building and Engineering Journal* (Melbourne) for March 19 last says that at the last meeting of the Builders' and Contractors' Association of New South Wales, Mr. Murray suggested that a small committee should be formed for the purpose of collating all law records relating to building suits. Mr. Murray instanced a case in which he had searched the London *Builder* for eleven years back to find a case parallel to the one in which he was then engaged, and had succeeded in finding such an instance, and, although this particular case was unknown to the lawyers, the judge who was conducting Mr. Murray's case admitted the *Builder* as evidence, and Mr. Murray won his suit.

MEETINGS.

MONDAY, MAY 2.

Royal Institute of British Architects.—Annual General Meeting, to discuss the Annual Report of the Council. 8 p.m.

Royal Institution.—Annual Meeting. 5 p.m.

Victoria Institute.—Sir C. Wilson on "The Past and Present Water Supply of Palestine." 8 p.m.

Society of Engineers.—Mr. S. H. Cox on "Dry Crushing Machinery." 7.30 p.m.

Society of Arts (Cantor Lectures).—Dr. Percy F. Frankland on "Recent Bacteriological and Chemical Research in Connexion with the Fermentation Industries." I. 8 p.m

Liverpool Architectural Society.—Annual General Meeting: President's Closing Address.

TUESDAY, MAY 3.

Institution of Civil Engineers.—Further discussion on Mr. James Swinburne's paper on "Electrical-Measuring Instruments." 8 p.m.

Institute of Builders.—Dinner at "The Monico," Piccadilly-circus, W. 6.30 p.m.

Royal Institution.—Professor T. G. Bonney on "The Sculpturing of Britain,—its Later Stages." II. 3 p.m.

Society of Biblical Archæology.—8 p.m.

Glasgow Architectural Association.—Mr. A. Fryers on "Half-Timber Work." 8 p.m.

WEDNESDAY, MAY 4.

Royal Archæological Institute.—Mr. F. C. J. Spurrell on "Early Painting and Colours from Medum." 4 p.m.

Society of Arts.—Mr. James N. Shoolbred on "The Bradford Corporation Electricity Supply." 8 p.m

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting. 8 30 p.m.

THURSDAY, MAY 5.

Institution of Mechanical Engineers.—Ordinary General Meeting. (1.) Inaugural Address by the President, Dr. W. Anderson. (2.) Two papers to be read. 7.30 p.m.

Royal Institution.—Professor Dewar on "The Chemistry of Gases."—II. 3 p.m.

Society of Antiquaries.—8.30 p.m.

FRIDAY, MAY 6.

Architectural Association.—Members' *Soirée.*

Institution of Mechanical Engineers.—Ordinary General Meeting (continued). 7.30 p.m.

Royal Institution.—Captain Abney on "The Sensitiveness of the Eye to Light and Colour." 9 p.m.

SATURDAY, MAY 7.

Edinburgh Architectural Association.—Visit to Pitteadie Castle (ruin), Seafield Tower.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

8,020.—NAILS: *A. Chandler.*—This patent refers to an improvement in horticultural nails, which form a kind of bracket or support to clip the branches or limbs of trees and plants, and secure the same to the wall, fence, or trellis work. On or over the head of any suitable nail a form of soft metal, such as lead, is fixed, provided with a finger, rectangular and flattened, as sheet metal. Two modes of fixing this soft metal to the nail are given in the specification. The nail thus formed can be driven in in the usual way, and the flat finger part can be bent round or over the branch or limb of the tree or plant by means of the thumb or finger without injury to the tree or plant.

489.—KILNS: *H. Warrington.*—This specification describes an improvement in ovens for bricks, earthenware, porcelain, and similar materials. The improvement consists in forming such ovens in the form of two con-

centric chambers, which can be either placed in communication with one another, or isolated as required.

9,710.—VENTILATORS: *E. Copland.*—The object of this invention is to produce a ventilator combining the advantages of the sliding and the hopper form of ventilation without their disadvantages. The inventor proposes to make the ventilator of the sliding form, providing it with the requisite means for raising and lowering, and on the inside of the window or other place to which the ventilator may be placed is securely attached a hopper immediately in front of the sliding ventilator, the hopper being open at the top, and closed air-tight at the sides and front. By this construction the entering air is directed towards the ceiling or top of the room, or other place, while the entry of air can be regulated at will.

323.—FLOORS: *A. F. Whittome.*—This invention consists of an improved method of laying solid wood-block floors, formed with pieces of fir or other timber, rectangular on the upper surface, either bevelled, or otherwise on the lower edges. The essential feature consists in the method of keying or securing the adjoining pieces together, which is effected by cutting diagonal grooves in edges at each of the four angles of the block, and inserting a rectangular tongue in such a manner as to key together the four angles of each of the four blocks adjoining, and by this means to obtain the effect of a solid continuous floor. Each block may be bedded in sand on a foundation of concrete.

NEW APPLICATIONS FOR LETTERS PATENT.

April 11.—6,900, R. Gibbs and E. Maddock, Ventilators and Chimney-cowls.—6,910, F. Pigott, Manufacture of Greenhouses and all other Buildings requiring Sash-Bars and Construction of the Sash-bars.—6,920, A. Johnson, Window-fastener.—6,938, G. Laurence, School Buildings.—6,940, G. Hayes, Construction of Buildings and Fire-proofing same.—6,947, A. Brookes, Hinges.—6,950, S. Hellyer, Water-closets, &c.—6,956, J. Harris, Closet-fittings.

April 12.—7,008, W. Heyes, Electric Light Fittings.—7,016, J. McFarlane and W. Edgar, Electric Fittings.—7,023, T. Riley, Hinge with Pin and Plate.—7,034, F. Willis and R. Astley, Constructing and Fixing Fireproof-floors.—7,053, W. Wythe, Window-shades.—7,071, W. Beaumont, Pneumatic Apparatus for Wood-working Machinery.—7,084, W. Bodin, Paints, &c.—7,085, B. and E. Joberns, Brick-making Machines.

April 13.—7,106, G. Haynes and F. Mott, Fasteners for Window-sashes.

April 14.—7,205, A. Leo, Portable Collapsible Ladders.—7,224, H. Thompson, Grates or Stoves.—7,225, D. MacDonald and others, Sash-locks.—7,248, H. and J. Warrington, Bricks for Building Purposes.

April 16.—7,270, R. Huppertsberg, Artificial Bituminous Stone.—7,278, D. Sutherland, Automatic Flushing Apparatus.—7,280, J. Simpson, Waste Water-closets.—7,308, J. Briggs, Kilns for Burning Limestone, Cement, &c.—7,312, W. Hull and others, Burglar Alarm Devices.

PROVISIONAL SPECIFICATIONS ACCEPTED.

5,644, A. Lamplough, Sash-fasteners.—5,647, J. Dungry, Fittings for Gas and other similar Pipes and Tubes.—5,801, S. Cook and J. Chambers, Sash-fasteners.—6,037, T. and W. Starkey, Door Catches for holding doors.—6,042, B. Bloom and A. Kotin, Closing Doors.—6,104, C. Luther, Cement or Glue for joining wood.—6,170, G. Bartlett, Water-closets.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

9,892, S. Gratrix and brother, and H. Blocklesby, Flushing Cisterns.—10,045, S. Wilde, Clip to prevent windows rattling.—10,073, J. Bennett, Roof Tile and method of laying and fixing the same on roof framings.—11,013, C. Lewin, Automatic Safety Fastenings for Window-sashes or other Sliding Sashes and Panels.—5,221, W. and R. Smith, Chimney-cowl or Ventilator.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

APRIL 20.—By *Crafter, Harris, & Co.*: "The Coopers' Arms," Old Kent-rd., f., 2,250*l.*; an improved rental of 22*l.*, Boundary-rd., Walthamstow, u.t. 65 yrs., with reversion, 550*l.* By *Dann & Lucas*: An enclosure of fruit land, Horton Kirby, Kent, 1a. 0r. 32p., 260*l.*; a plot of freehold pasture land, 1a. 1r. 10p., 165*l.*

APRIL 21.—By *Prince & Lewis*: 63 to 79(odd), Bansteadst.; and 39, Tappersfield-rd., Nunhead, u.t. 84 yrs., g.r. 47*l.* 10s., 500*l.*—By *E. & H. Lumley*: Nos. 95 and 164, New Bond-st.—Corporation lease, 31,600*l.*; "The White Lion" public-house, Brook-st., Hanover-sq.; and 13, 14, and 15, Avery-row—Corporation lease, 3,800*l.*—By *Mansell & Rowe*: The residence, "Broughton," Fountain-rd., Norwood, u.t. 45 yrs., g.r. 17*l.*, 900*l.*—By *J. H. Hibbard*: 167, Elderfield-rd., Clapton, u.t. 86 yrs., g.r. 4*l.* 10s., 205*l.*; 41, Cavendish-rd., Harringay, u.t. 95 yrs., g.r. 7*l.* 7s., r. 34*l.*, 330*l.*—By *Newbon & Co*: 44, 46 and 48, Mayton-st., Holloway, u.t., 68 yrs., g.r., 15*l.* 15s., r. 96*l.*, 735*l.*; 31, Brunswick-rd., u.t. 58 yrs., g.r. 7*l.*, r. 27*l.*, 205*l.*; 59, Chalton-st., Somers Town, u.t. 36 yrs., g.r. 15*l.*, r. 65*l.*, 245*l.*; 107 and 109, Shakespeare-rd., Stoke Newington, u.t. 60 yrs., g.r. 12*l.*, r. 56*l.*, 495*l.*; 227, Markhouse-rd., Walthamstow, f., 585*l.*; 19, Albert-rd., f., 355*l.*—By *Jenkins & Son* (at Deptford): 5 and 7, St. James's-rd., New Cross, u.t. 72 yrs., g.r. 14*l.* 14s., r. 84*l.*, 900*l.*; 72 and 74, Shardeloes-rd., u.t. 72 yrs, g.r. 8*l.* 10s., r. 56*l.*, 525*l.*

APRIL 22.—By *Jones, Lang, & Co.*: Nos. 70 and 70A, Aldermanbury, f., area 1,700 ft., r. 400*l.*, 10,700*l.*; 72, Aldermanbury, f., area 940 ft., r. 415*l.*, 5,300*l.*—By *Baker & Sons*: 4, High-st., Whitechapel, f., 3,720*l.*; "The Crown and Anchor" beer-house, St. Albans, f., r. 25*l.*, 745*l.*; "Albert Villa," Fallow-lane, Finchley, f., 700*l.*—By *Furber, Price, & Furber*: i.g.r., of 63*l.*, Aldenham-st., Somers Town, u.t. 30 yrs., g.r. 24*l.*, 480*l.*; i.g.r. of 50*l.*, Hastings-st., Burton-cres., u.t. 14 yrs., g.r. 15*l.* 15s., 250*l.*; i.g.r. of 30*l.*, Jeffrey's-st., &c., Camden Town, u.t. 32 yrs., g.r. 7*l.*, 340*l.*; No. 333, Wandsworth-rd., r. 55*l.*, and a g.r. of 11*l.*, u.t. 42 yrs., g.r. 23*l.*, 250*l.*; a profit rental of 60*l.*, South Hill-pk., Hampstead, u.t. 63 yrs., 1,000*l.*; 499 and 501, High-rd., Chiswick, u.t. 69 yrs., g.r. 12*l.*, 735*l.*; "The Duke of Cambridge" public-house, Cale-st., Chelsea, u.t. 16 yrs., g.r. 4*l.*, r. 60*l.*, 450*l.*; King's-rd., i.g.r. of 35*l.* 10s., u.t. 61 yrs., g.r. 1*l.*, 625*l.*; i.g.r. of 27*l.* u.t. 64 yrs., g.r. 1*l.*, 480*l.*; i.g.r. of 63*l.*, Claribel-rd., Brixton, u.t. 22 yrs., g.r. nil, 730*l.*; 20, Rush-hill-rd., Lavender Hill, u.t. 79 yrs, g.r. 6*l.*, r. 32*l.*, 265*l.*—By *Field & Sons*: 90, Park-st., Southwark, f., r. 50*l.*, 780*l.*; 19, 20, and 21, Lant-pl., f., r. 85*l.* 16s., 760*l.*; 65, Mervan-rd., Brixton, u.t. 81 yrs., g.r. 7*l.* 7s., r. 32*l.*, 270*l.*; 2, Whitecross-st., Borough, u.t. 16 yrs., g.r. 8*l.*, r. 20*l.*, 21*l.*; 53 and 54, Woolwich-rd., Belvedere, Kent., u.t. 70 yrs., g.r. 9*l.*, r. 30*l.* 10s., 200*l.*; 156, High-st., Borough, u.t. 10 yrs., g.r. 150*l.*, r. 395*l.*, 660*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	9/0/0	0/0/0
Teak, R.I.. load	10/0/0	15/0/0
Sequoia, U.S.ft.cu.	0/3	0/0
Ash, Canada load	2/10/0	4/0/0
Birch, do.	3/5/0	4/10/0
Elm, do.	3/10/0	4/15/0
Fir, Dantzic, &c.	1/10/0	3/10/0
Oak, do.	3/0/0	5/5/0
Canada.....	5/10/0	7/0/0
Pine, Canada red	2/10/0	3/10/0
Do, yellow	2/10/0	5/0/0
Lath, D'ntsic, fath	5/0/0	6/0/0
St. Petersburg	5/0/0	7/0/0
Deals, Finland, 2nd & 1st std 100	8/10/0	10/0/0
Do, 4th & 3rd..	7/0/0	8/10/0
Do. Riga	7/0/0	8/0/0
St. Petersburg, 1st yellow ..	11/0/0	15/0/0
Do. 2nd yellow	8/0/0	10/0/0
Do. white	7/10/0	11/0/0
Swedish	8/0/0	16/0/0
White Sea	8/0/0	18/0/0
Canada, Pine 1st	20/0/0	26/0/0
Do. do. 2nd....	14/10/0	16/0/0
Do. do. 3rd, &c.	8/0/0	10/5/0
Do. Spruce. 1st	8/10/0	11/0/0
Do. do. 3rd & 2nd.....	6/15/0	8/0/0
New Brunswick	7/0/0	7/10/0
Battens, all kinds	3/10/0	15/10/0
Flooring Boards, sq., 1 in. prep. 1st	0/8/0	0/14/0
Do. 2nd.....	0/7/0	0/11/0
Other qualities	0/4/0	0/9/0
Cedar, Cuba ..ft.	/3½	/4½
Honduras, &c.	/2½	/4
Mahogany, Cuba.	/4½	/6½
St. Domingo, cargo av	/4½	2/0
Mexican do. do	/4	/5
Tobasco do. do	/5½	/7
Honduras do..	/5½	/6½
Box, Turkey ton	4/0/0	13/0/0
Rose, Rio.....	10/0/0	20/0/0
Bahia	9/0/0	18/0/0
Satin, St. Domingo ....ft.	0/0.8	0/1/3

TIMBER (*continued*).		
Satin, Porto Rico	0/0/8	0/1/6
Walnut, Italian..	0/0/3½	0/0/7
METALS.		
IRON—Pig, in Scotland .....ton	2/1/2	0/0/0
Bar, Welsh, in London.....	5/17/6	6/0/0
Do. do. at works in Wales	5/7/6	5/10/0
Do. Staffordshire, in London	6/5/0	6/15/0
COPPER—British, cake and ingot	48/10/0	49.0/0
Best selected ..	49/10/0	50/0/0
Sheets, strong..	59/0/0	0/0/0
Chili, bars	45/2/6	45/10/0
YELLOW METAL lb.	0/0/5½	0/0/5⅝
LEAD—Pig, Spanish ....ton	10/10/0	10/11/3
English, com. brands	10/15/0	10/17/6
Sheet, English, 3 lbs. per sq. ft. and upwards ..	12.5/0	0/0/0
Pipe	12/15/0	0/0/0
ZINC—English sheet .....ton	25/10/0	0/0/0
Vieille Montagne.....	26/5.0	0/0/0
TIN—Straits	94/7/6	94/17/6
Australian	94/7/6	94/17/6
English Ingots	96/0/0	96/10/0
OILS.		
Linseed .....ton	18/5/0	18/10/0
Cocoanut, Cochin	24/10/0	0/0/0
Do. Ceylon	22/0/0	0/0 0
Palm, Lagos	23/5.0	23/10/0
Rapeseed, English pale	24/10/0	25/0/0
Do. brown	23/0/0	0/0.0
Cottonseed ref...	19/0/0	0/0/0
Oleine	21/10/0	22/10/0
Lubricating, U.S.	4/0/0	5/0/0
Do. refined	5/0/0	10/0/0
TAR—Stockholm barrel	0/19/0	1/0/0
Archangel	0/12/6	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 12 *noon on Thursdays.*]

ANGLESEY.—For work on the Marquis of Anglesey's Estate, Anglesey. Mr. Wm. E. Jones, architect, Graig, Llanfair, P.G.:—

Farm House, Dairy, and Cattle Sheds, Caeuchaf.

D. Owen	£970	Thos. Griffith	£780
W. O. Daniel	827	R. Owen & Sons, Pentaeth *	700
John Owen	815	* Accepted.	

Cattle Sheds, Cefn Poeth, Llangefni.

Lewis Parry	£262 0	W. & O. Pritchard	£200 0
G. Parry	230 10	Thos. Jones	179 4
John Pritchard & Son....	220 0	Thos. Griffith, Tynygongl, Anglesey *	170 0
John Owen	214 0	* Accepted.	

Farm Buildings, Budin Penymynydd.

L. Parry	£797 0	Owen Thomas	£520 0
W. & O. Pritchard	705 0	Thomas Griffith, Tynygongl, Anglesey*	510 0
John Owen	600 0	* Accepted.	
G. Parry	520 17		

Cattle Sheds, &c., Carnauddu, Gaerwen.

Lewes Parry	£536 0	Griffith Parry, Llanddanielfab (accepted)	319 15
W. & O. Pritchard	386 0	John Pritchard & Son....	317 0

AYLESBURY.—For the erection of a new farm-house, for the Trustees of Harding's Charity. Mr. W. F. Taylor, architect, Aylesbury:—

Webster & Cannon	£635 0	G. Green	£577 0
S. Grist	588 18	Ball & Mayne	530 0

[All of Aylesbury.]

EVIE (Orkney).—For erecting Volunteer Artillery Drill Hall and instructor's cottage, Evie, Orkney, for Colonel J. W. Balfour. Mr. T. S. Peace, architect, Kirkwall:—

Corrigal & Shurrie	£815 0	J. Taylor	£699 8
Jas. M. Chalmers & Son..	760 0	Sam. Firth, Harray*	613 0
J. Garrioch	694 0	* Accepted.	

LONDON.—For pulling down and rebuilding No. 3, Palace-street, and altering and repairing Nos. 1, 3, and 5, Buckingham Palace-road, and No. 1, Palace-street, S.W., for Mr. John Gooch. Mr. Geo. Edwards, architect, 52, Cannon-street:—

Martin Wells & Co.	£1,899	Knight	£1,750
Barnett	1,898	Craske	1,648
C. Wall	1,873	Stimpson & Co.	1,623
Staines & Son	1,864	Ward & Lamble	1,611
Stevens	1,849	Scharien & Co.	1,493
Leslie & Knight	1,796		

LONDON.—For alterations at No. 44, King William-street, for the Aërated Bread Company. Mr. Geo. Edwards, architect, 52, Cannon-street:—

C. Wall	£575	Scharien & Co.	£338
Ward & Lamble	421		

LONDON.—For the erection of a new warehouse, for Messrs. Blenkiron & Son, Hoxton. Mr. Frank E. Smee, architect, 12, West Smithfield, E.C.:—

Minton & Co.	£420	Lamb	333
Johnson	368	Hawtrey & Son	320

LONDON.—Accepted for making-up road, &c., at Peckham Rye. Mr. F. A. Powell, surveyor, Kennington-road:—

J. Bowles, Mendip-wharf, Battersea..... £349 10 0

LONDON.—For alterations and additions to the "Swiss Stores," Cranbourne-street, W.C., for Mr. E. Maddick. Mr. H. I. Newton, architect, 49, Victoria-street, Westminster, S.W.:—

Edwards & Medway	£670	C. Dearing & Son	£623
J. Milroy	650	S. R. Lamble, Kentish Town*	623
*Accepted.			

LONDON.—For rebuilding the "Green Man" public-house and two shops, Old-Kent-road, S.E., for Mr. G. Homer. Mr. Bruce J. Capell, architect, 70, Whitechapel-road, E. Quantities by Mr. Max Clarke, 4, Queen's-square, Bloomsbury:—

	Public-house.	*Shops.*	Total.
Mills	£3,300	£2,970	£8,270
Todd	5,134	2,845	7,979
Harris & Wardrop	4,989	2,744	7,733
Whitehead	4,980	2,650	7,630
Jerrard	4,679	2,593	7,272
Courtney & Fairbairn	4,642	2,534	7,176
Young & Lonsdale*	4,631	2,544	7,175

* Accepted.

LONDON.—For erecting the new Church of St. Barnabas, Dulwich. Messrs. Oliver & Leeson, architects, Bank Chambers, Newcastle-on-Tyne:—

	Alternative.	Fencing.	Total.
Botterill	£6,200 0 0..	£582 0 0..	£269 0 0..	£7,053 0
J. P. Groome	5,958 17 0..	320 0..	600 0 0..	6,873 0
Mid-Kent Bldg. Co...	6,156 0 0..	444 0..	178 0 0..	6,778 0
Wm. Furniss	5,928 19 0..	— ..	717 3 8..	6,646 0
Jackson Bros.	5,828 0 0..	554 15..	430 0 0..	6,612 0
R. E. Nightingale	5,742 0 0..	468 0..	394 0 0..	6,604 0
W. J. Mitchell	5,819 0 0..	276 0..	350 0 0..	6,445 0
Cornish & Garner...	5,458 0 0..	554 0..	277 0 0..	6,289 0
Reed, Blight, & Co...	5,379 0 0..	298 0..	323 0 0..	6,000 0
P. Houghton	5,055 0 0..	575 0..	340 0 0..	5,970 0
Jos. Ellistre	5,150 0 0..	443 0..	307 0 0..	5,900 0
J. C. Bowyer	5,129 0 0..	338 0..	226 0 0..	5,698 0
J. W. Sawyer	4,760 0 0..	650 0..	226 0 0..	5,636 0
W. Wallis	4,987 0 0..	300 0..	243 0 0..	5,530 0
Wm. Shepherd	4,975 0 0..	342 0..	215 0 0..	5,532 0
W. H. Lorder & Son..	4,910 0 0..	349 0..	240 0 0..	5,499 0
Wm. Brooks	4,860 0 0..	250 0..	350 0 0..	5,460 0
Goddard & Son	4,681 17 0..	203 3..	287 0 0..	5,172 0
Trappitt & Batley	4,685 0 0 .	83 10..	353 0 0..	5,121 10
Richardson	4,065 9 9..	260 0..	251 10 3..	4,577 0

LONDON.—For alterations to Nos. 195 and 197, New Cross-road, for the London and South-Western Bank. Messrs. Truefitt, architects, 5, Bloomsbury-square. Quantities by Messrs. Morris, Evans, & Son:—

Bunning & Son	£2,378	Higgs & Son	£1,690
Faulkner	1,892	J. Hunt	1,689
Legg	1,838	Balsam Bros*	1,638
Bryan & Son	1,831	* Accepted.	

LONDON.—For building new coffee factory, Bermondsey, for Messrs. W. S. Shuttleworth & Co. Mr. Arthur Vernon, architect, 29, Cockspur-street, Charing-cross:—

Cornish & Gaymer	£805	W. Shepherd	£700
W. Brooks	800	Houghton & Son	632
J. Bullers	795	C. N. Philips*	593
R. G. Battley	734	* Accepted.	

LONDON.—For alterations at "The Pelican," Southwark-street, S.E. Mr. W. Seckham Witherington, architect, 79, Mark-lane, E.C.:—

Mills	£2,190	Courtney & Fairbain	£2,061
Sheffield Bros.	2,079	Spencer & Co.	2,050

LONDON.—For erecting proposed middle-class dwellings and shops, Green Lanes, Stoke Newington, for Mr. R. Tomlinson. Mr. Horace E. Davey, architect, Saxon-road, Selhurst, S.E. Quantities by Messrs. W. Heelis & A. F. Wrightson, Budge-row:—

Holloway Bros.	£34,415	L. & H. Roberts	£32,798
Colls & Sons	33,890	W. Downs & Co.	32,777
Patman & Fotheringham	33,681	Burman & Sons	32,500
Dearing & Sons	33,500	Kirby & Gayford	32,434
F. & H. F. Higgs	33,420	Wilmot & Sons (too late)	32,226
Perry & Co.	32,997	T. Knight, Sidcup	32,209
Lawrence & Sons	32,909		

LONDON.—For the erection of the New Central Public Library, in the Peckham-road, for the Commissioners of Public Libraries for the Parish of Camberwell. Mr. R. P. Whellock, architect, 45, Finsbury-pavement, E.C. Quantities by Messrs. Franklin & Andrews, 25, Ludgate-hill, E.C.:—

Holliday & Greenwood	£11,377	Avard	£10,380
Brooks	11 200	Parker	10,350
Downs	10,999	Nightingale	10,225
Holloway Bros.	10,628	Balsam Bros.	10,145
Scharieu	10,438	W. Richardson	10,000
H. L. Holloway	10,437	Kirk & Randall	9,920
Young & Lonsdale	10,436	J. O. Richardson	9,558
Allen & Sons	10,365	R. & E. Evans*	8,998
		* Accepted.	

LONDON.—Accepted for fitting up stores at 11 and 12, New Bridge-street, E.C. Mr. Alexander Gordon, architect, 101 Queen Victoria-street:—

G. H. Martin & Co., West Croydon £493

LONDON.—For repairs at the Licensed Victuallers' Asylum, Old Kent-road, London, S.E. Mr. W. F. Potter, architect:—

Courtney & Fairbairn	£469	B. Cook & Sons	£230
R. Eddie	448	Walker Bros., Poplar*	171
S. Hayworth & Sons	324	W. Wythe	150
Ditcham & Co.	233	* Accepted.	

Restoration of Stone-cornice and Coping-stones to Matron's House.

	Stone.	*Cement.*
W. Wythe	£180 0	£7 0
Courtney & Fairbairn	141 10	75 10
Ditcham & Co.	127 0	59 0
S. Hayworth & Sons	119 16	58 8
R. Eddie	113 0	56 0
B. Cook & Sons	110 0	46 10
Walker Bros., Poplar*	107 0	50 0

* Accepted to execute the work in Portland stone.

LONDON.—For pulling down and rebuilding No. 189, Upper-street, for Mr. Loomes. Messrs. Hodson & Whitehead, architects, 7, Finsbury-square, E.C.:—

Coombs	£880	Houghton	£772
Chessum	793	Marshall	720

LONDON.—For alterations and additions to Nos. 9 and 10, Norland-terrace, Notting-hill. Mr. C. L. R. Tudor, architect, 81, Lancaster-road, Notting-hill. Quantities by Mr. C. J. Ford, 4, Mitre-court, Fleet-street, E.C.:—

Watts	£1,088	Nash	£740
Colley	797	Tozer	709
Cowley & Drake	758	Moody (accepted)	630

LONDON.—Accepted for the erection of new Wesleyan Chapel and vestries at Upton-park. Mr. F. Borcham, architect, 75, Finsbury-pavement, E.C.:—

William Jelley, Wood-green £3,033 0 0

MARGATE.—For painting and decorating at the Royal Assembly Rooms, Margate. Mr. W. Graves, architect, Winchester House, E.C. :—

Bowyer	£630	Brown	£420
Houghton	573	Paramor	395
Pitman	495	London	390

NEASDEN (Middlesex).—Accepted for the erection of eight villa residences in Lansdowne-grove, for Mr. R. Richards. Mr. Thos. S. Stephens, architect, Acton :—

H. G. Heywood £3,200 0 0

SHEFFIELD.—For new roof and other works, at the Ruskin Museum, Mee sbrook Park, Sheffield :—

T. Lowe & Son	£747	6	6	C. Skelton	£649	4	0
Ash, Son, & Biggin	680	0	0	T. Fish & Son, Nottingham*	603	8	8
Chadwick	678	0	0				
Chambers & Son	665	16	8	S. Warburton	534	0	0
J. Eshelby	650	18	8				

* Accepted.

[Borough Surveyor's estimate, £600.]

STOCKPORT.—For the construction of a bridge over the river Mersey, near Wellington Bridge. Mr. A. M. Fowler, engineer, 43, Great Underbank, Stockport :—

Masonry.

Smith	£6,383	0	4	C. A. Rigby & Co.	£5,351	13	6
T. & W. Meadows	5,900	0	0	Townsend & Watson	5,295	0	0
J. Broadhurst	5,800	0	0	D. Eadie, Stockport*	4,995	0	0
Byron	5,684	0	0				

* Accepted.

Ironwork.

Stockton Forge Company	5,889	13	1	Cleveland Engineering Company	£4,626	6	5
Heenan & Froude	5,659	17	0	Jesse Tildesley	4,580	0	0
Mayok Bros.	5,391	0	0	Shewell & Co.*	4,555	0	10
Peter Smith	4,767	3	0				

* Accepted.

SURBITON.—For erecting and completing a pair of villa residences in the Ditton-road, Surbiton, for Mr. Davis Rands. Mr. R. Lano Pearce, architect, 100c, Queen Victoria-street, E.C. :—

Oldridge & Sons	£1,254	R. Scase & Son	£997
W. H. Gaze	1,145	Adkins Bros., Surbiton*	955

* Accepted subject to modification.

SURBITON.—For making roads and sewers on the Cranes Estate, Surbiton. Mr. Mather, surveyor :—

Cooke & Co.	£3,186	10	5	Killingback	£2,485	0	0
Serf & Co.	3,062	0	0	Atkins	2,365	0	0
Barlow & Roberts	2,909	0	0	Rigby	2,308	0	0
Beutley	2,801	0	0	Bowles	2,223	12	0
Jarvis	2,575	0	0	Hunter	2,200	0	0
Woodham & Fry	2,527	0	11	W. Cunliffe, Kingston-on-Thames*	2,193	1	7
Kavanagh	2,470	4	6				

* Accepted.

WALTON-ON-NAZE.—Accepted for constructing new groyne terrace, restoration, &c., No. 3 Contract. Mr. S. B. Goslin, engineer :—

B. Cooke & Co., Battersea £1,400

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TO CORRESPONDENTS.

W. E. C. T.—J. D. W. (too late).—G. C., "Ferrozone" is, we believe, a persalt of iron. "Polarite" is a preparation of lignite. The "International" system is in use at, amongst other places, Acton. For an account of the works there and of the whole process, see *Builder* for April 9, 1887, p. 534.—"Bricks and Mortar" (next week).—W. H. W. (next week).—F. W. L. (we cannot insert such items twice).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

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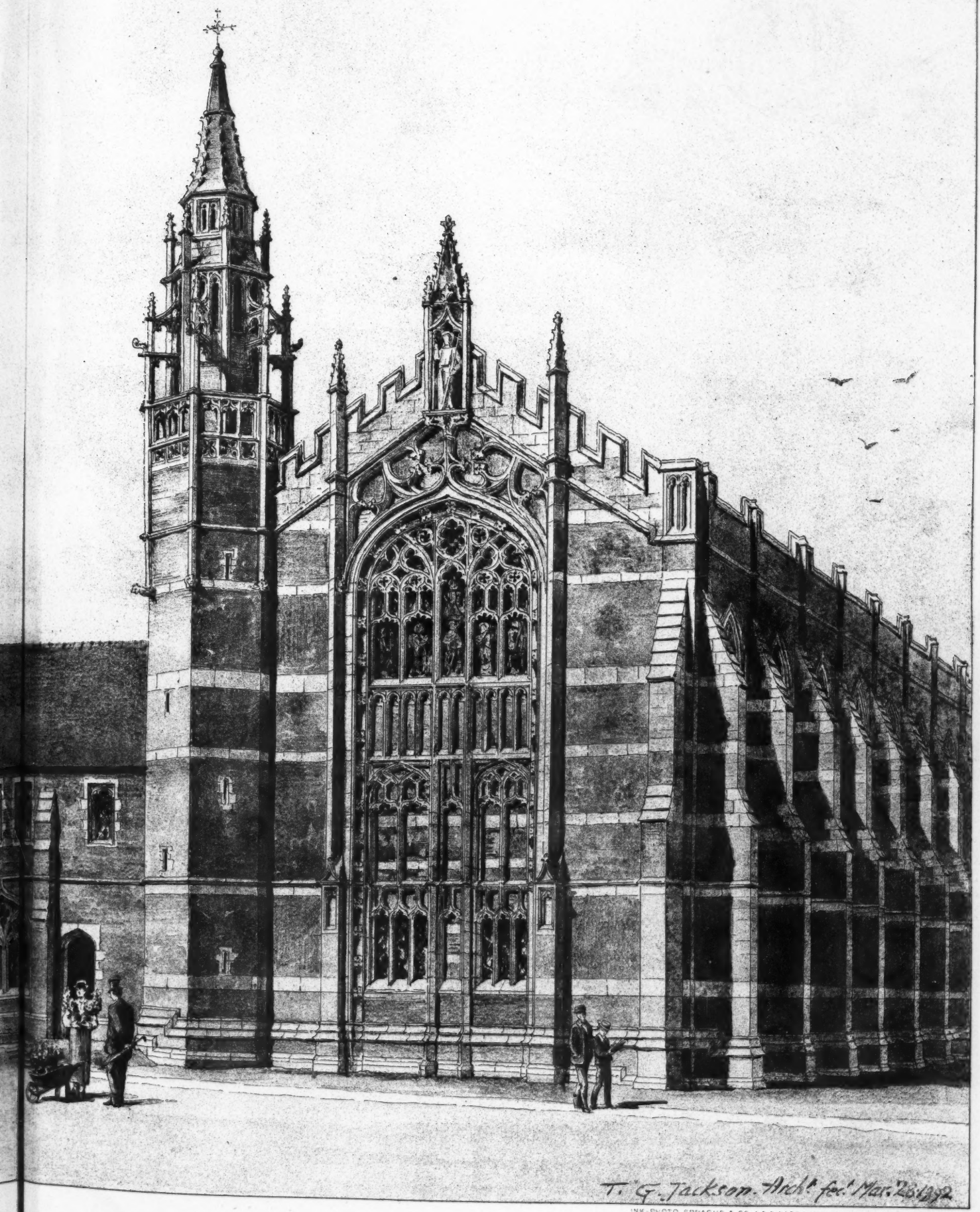
Cloisters and
the new then proposed new Chapel.



T. G. Jackson. Arch.t fec.t Mar. 26 1892

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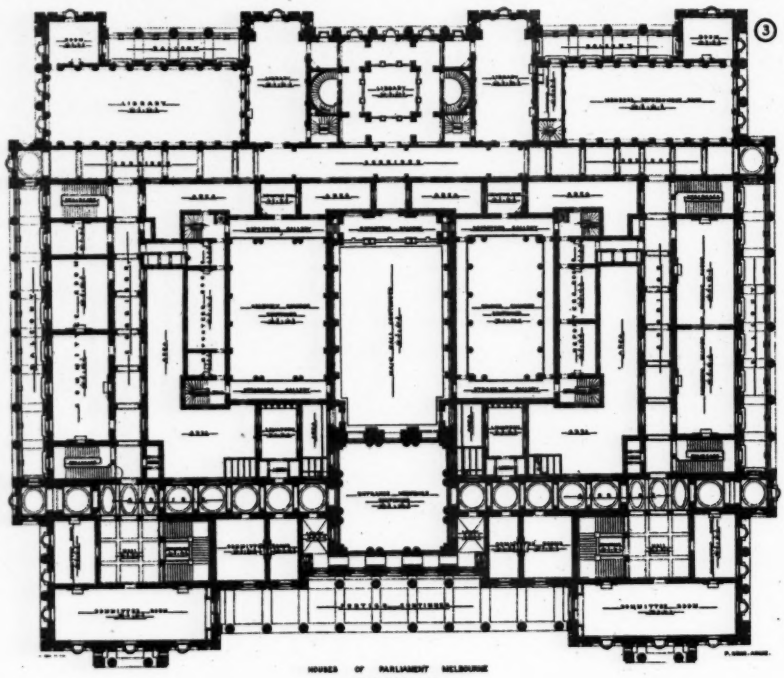
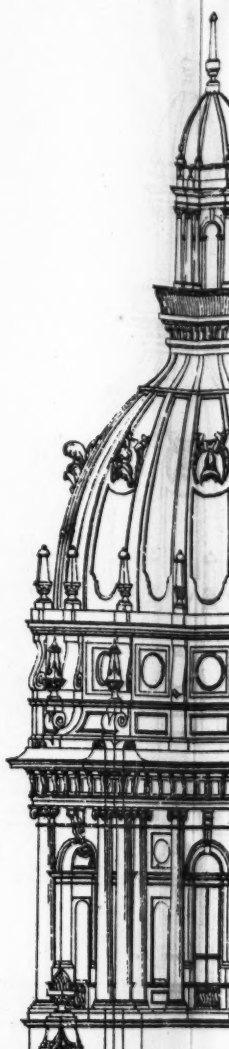
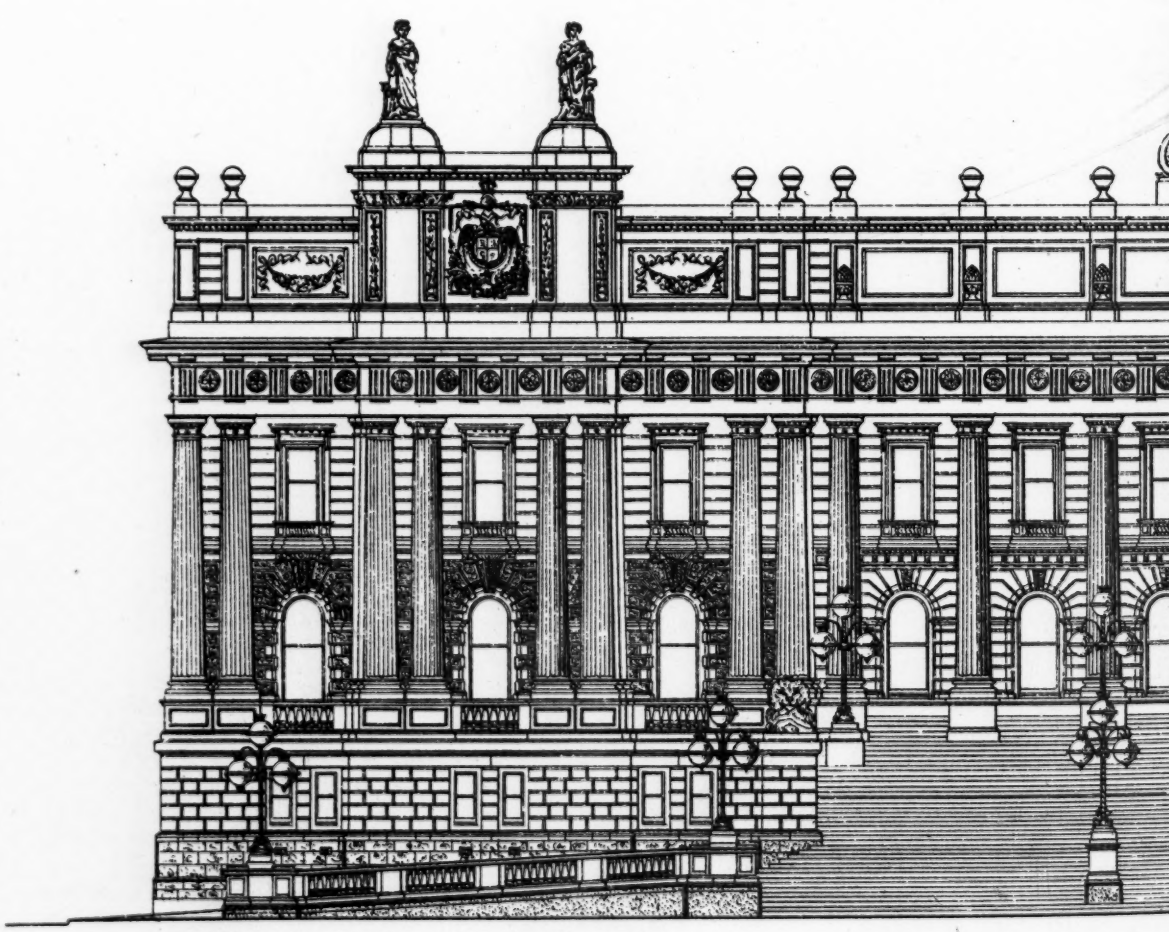


HOUSES OF PARLIAMENT MELBOURNE
FIRST FLOOR PLAN



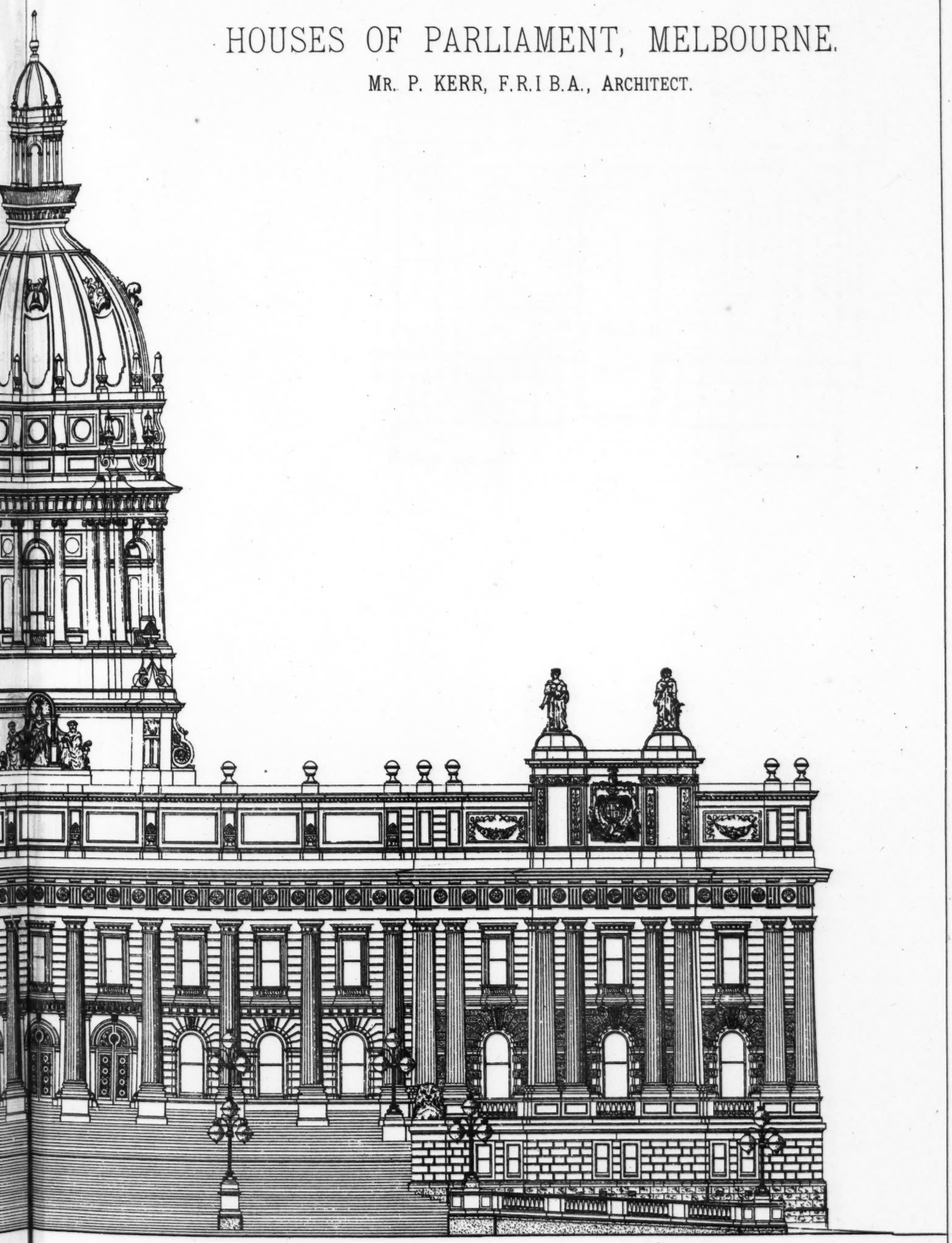


WEST FA

SCALE

HOUSES OF PARLIAMENT, MELBOURNE.

MR. P. KERR, F.R.I B.A., ARCHITECT.



WEST FACADE

0 20 30 40 FEET

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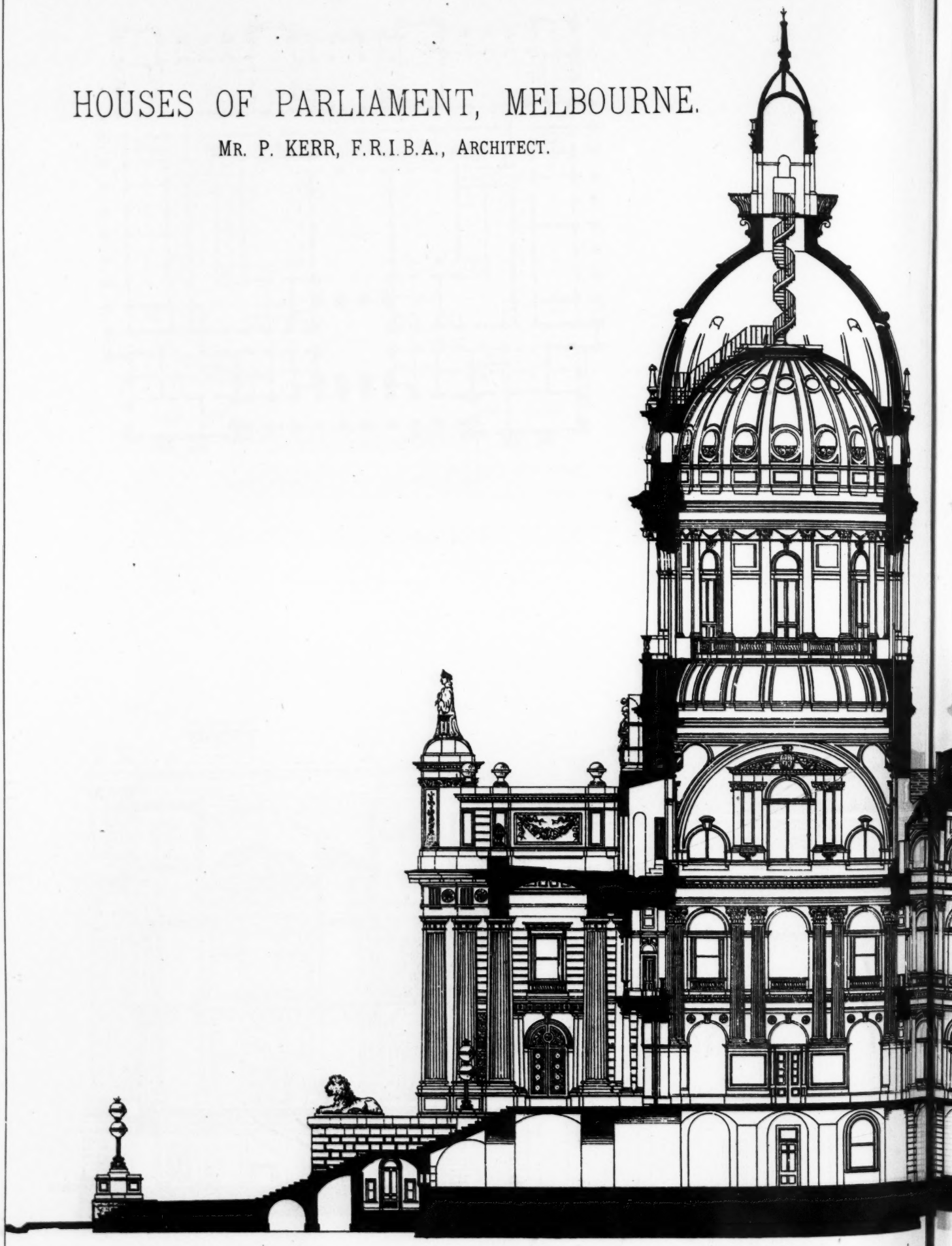
BEDROOM FURNITURE: HOUSE IN SUSSEX GARDENS.—Mr. Arthur Cawston, A.R.I.B.A., Architect.

INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

DRAWING-ROOM: "BROOKLANDS," WEYBRIDGE.—Mr. Reginald T. Blomfield, Architect.

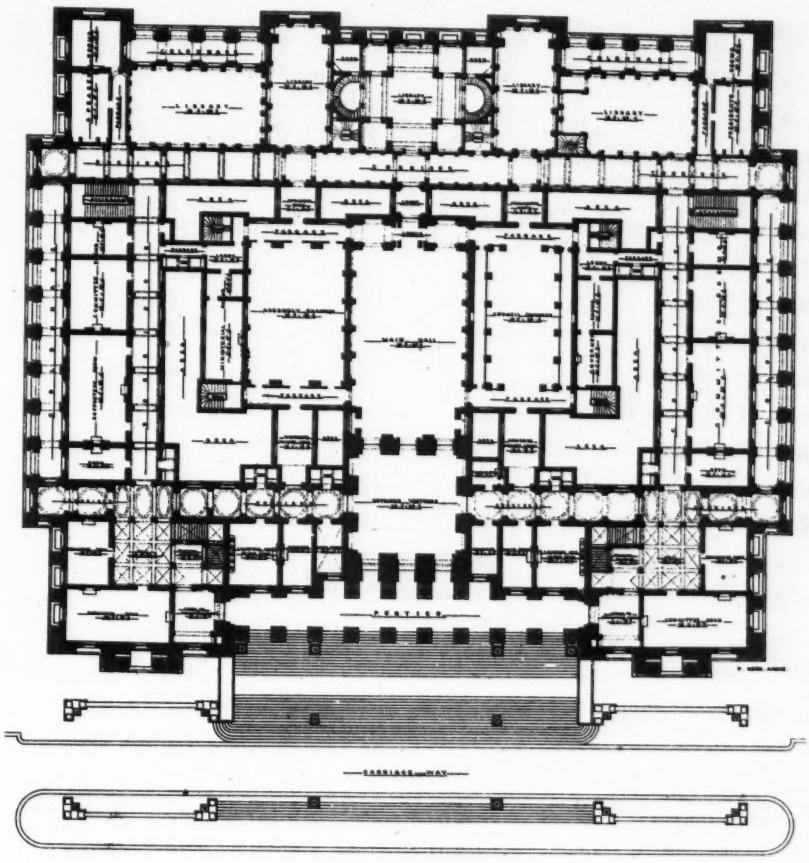
HOUSES OF PARLIAMENT, MELBOURNE.

MR. P. KERR, F.R.I.B.A., ARCHITECT.

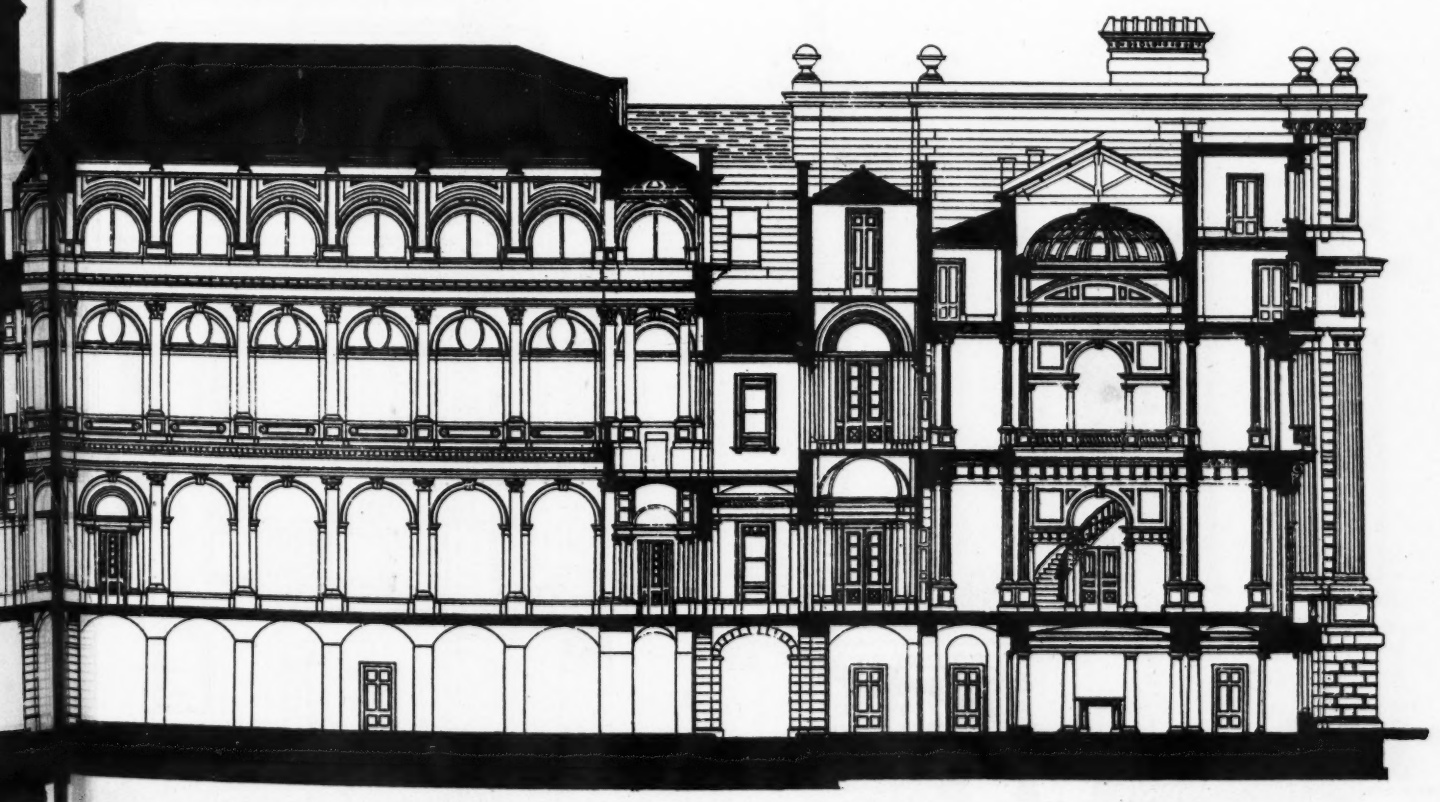


LONGITUDINA

SCALE



HOUSES OF PARLIAMENT MELBOURNE
FIRST FLOOR PLAN



SECTION

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